

36  
765  
No. 2159

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United States  
Circuit Court of Appeals

For the Ninth Circuit.

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Transcript of Record.

(IN TWO VOLUMES.)

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LOS ANGELES GAS AND ELECTRIC CORPO-  
RATION, a Corporation,

Plaintiff in Error,

VS.

THE WESTERN GAS CONSTRUCTION COMPANY,  
a Corporation,

Defendant in Error.

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VOLUME I.

(Pages 1 to 416, Inclusive.)

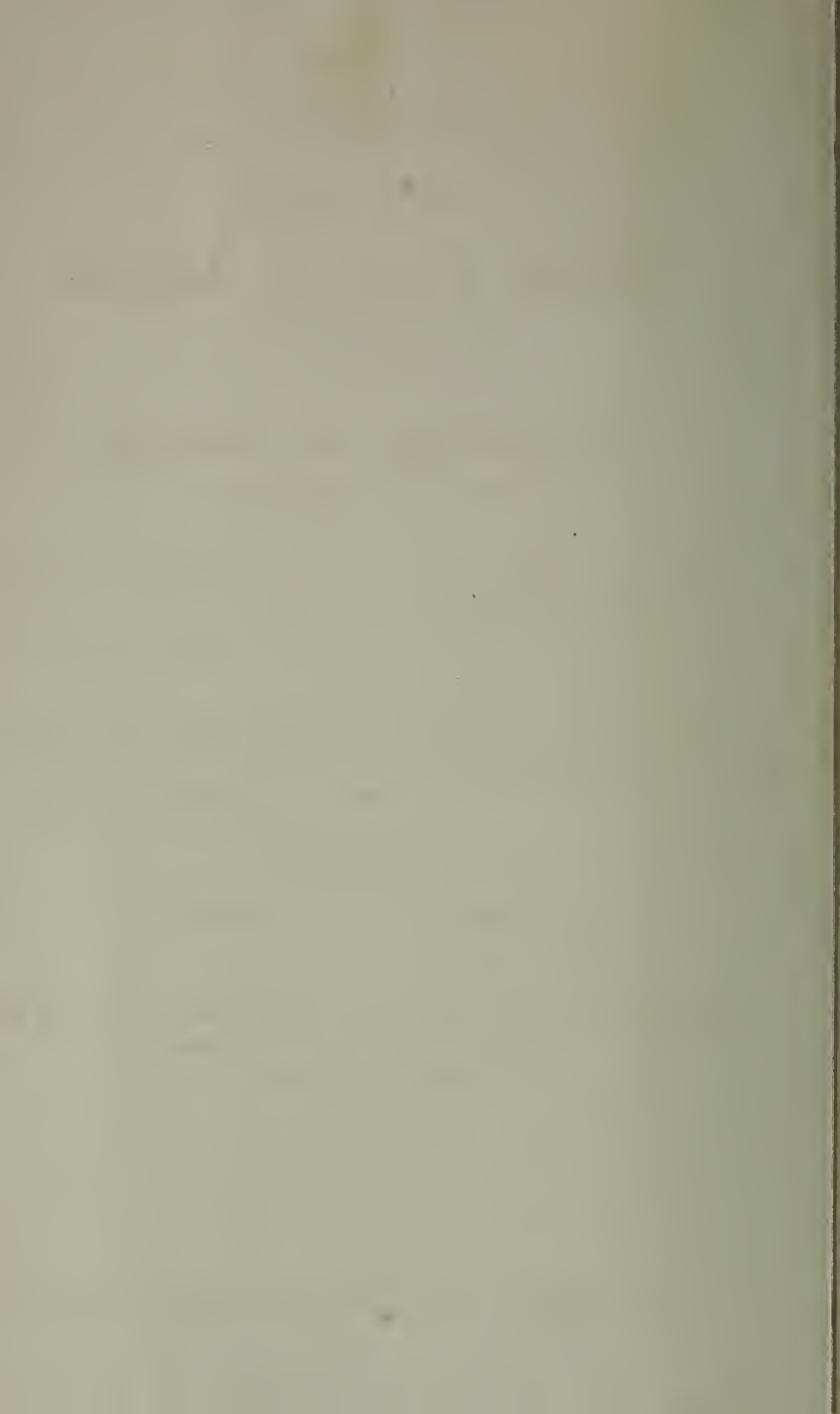
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Upon Writ of Error to the United States District Court of the  
Southern District of California,  
Southern Division.

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FILED

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Records of M.S. Laurent Car  
of Appraisals  
765





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# INDEX OF PRINTED TRANSCRIPT OF RECORD.

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[Clerk's Note: When deemed likely to be of an important nature, errors or doubtful matters appearing in the original certified record are printed literally in *italic*; and, likewise, cancelled matter appearing in the original certified record is printed and cancelled herein accordingly. When possible, an omission from the text is indicated by printing in *italic* the two words between which the omission seems to occur. Title heads inserted by the Clerk are enclosed within brackets.]

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## **Names and Addresses of Attorneys.**

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LE ROY M. EDWARDS, Esq., 645 South Hill  
Street, Los Angeles, California.

**For Defendant:**

OSCAR A. TRIPPET, Esq., 315 Coulter Bldg.,  
Los Angeles, California.

WARD CHAPMAN, Esq., 315 Coulter Bldg.,  
Los Angeles, California.

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*In the United States Circuit Court of Appeals,  
Ninth Judicial Circuit.*

LOS ANGELES GAS AND ELECTRIC CORPO-  
RATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COM-  
PANY, a Corporation,

Defendant.

### **Writ of Error.**

The President of the United States, to the Honorable, the Judge of The District Court of the United States in and for the Southern District of California, Southern Division, Greeting:

Because, in the records and proceedings, and also in the rendition of the judgment of a plea which is in the District Court before you, between the Los Angeles Gas and Electric Corporation, a corporation, plaintiff in error, and The Western Gas Construc-



tion Company, a corporation, defendant in error, a manifest error has appeared, to the great damage of said Los Angeles Gas and Electric Corporation, a corporation, plaintiff in error, as by its complaint appears, we being willing that the error, if any has been made, should be duly corrected, and full and speedy justice done to said party aforesaid, in this behalf do command you if judgment therein be given under your seal, distinctly and openly that you send the records and proceedings aforesaid and all things concerning same, to the United States Circuit Court of Appeals for the Ninth Circuit, together with this writ, so that you have the same at the City of San Francisco, in the State of California, on the 23d day of April, 1912, in the said Circuit Court of Appeals to be then and there held, that the records and proceedings aforesaid being inspected, the said Circuit Court of Appeals may cause further to be done therein, to correct that error, what of right and according to the laws and customs of the United States should be done.

Witness the Honorable EDWARD D. WHITE,  
Chief Justice of the United States, this 25th day of  
March, 1912.

[Seal]

WM. M. VAN DYKE,  
Clerk of the District Court of the United States of  
America, in and for the Southern District of  
California.

By Chas. N. Williams,  
Deputy Clerk.

The above writ of error is hereby allowed.

OLIN WELLBORN,  
Judge.



I hereby certify that a copy of the within writ of error was on the 25th day of March, 1912, lodged in the Clerk's office of the said United States District Court, in and for the Southern District of California, Southern Division, for the said defendant in error.

WM. M. VAN DYKE,  
Clerk of the United States District Court, Southern  
District of California.

By Chas. N. Williams,  
Deputy Clerk.

[Endorsed]: C. C. No. 1558. In the United States Circuit Court of Appeals, Ninth Judicial Circuit. Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation, Defendant. Writ of Error. Filed March 25, 1912. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk.

---

*In the United States Circuit Court of Appeals,  
Ninth Judicial Circuit.*

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

**Citation on Writ of Error.**

The President of the United States to The Western Gas Construction Company, a Corporation, and to Oscar Trippet, Esq., and Ward Chapman, Esq., Its Attorneys, Greeting:

You are hereby cited and admonished to appear at the United States Circuit Court of Appeals for the Ninth Circuit to be held at the City of San Francisco, in the State of California, within thirty days from the date of this writ, pursuant to the writ of error filed in the Clerk's office of the District Court of the United States in and for the Southern District of California, Southern Division, in that certain action wherein the Los Angeles Gas and Electric Corporation, a corporation, is plaintiff in error, and you are defendant in error, to show cause, if any there be, why the judgment in said writ of error should not be corrected and speedy justice should not be done to the parties in that behalf.

Witness the Honorable EDWARD D. WHITE, Chief Justice, Supreme Court of the United States of America, this 25th day of March, A. D. 1912, and of the Independence of the United States, the 136th.

OLIN WELLBORN,

United States District Judge in and for the Southern District of California, Southern Division.

Service of the within citation on writ of error admitted this 25th day of March, 1912.

OSCAR A. TRIPPET,  
WARD CHAPMAN,  
Attorneys for Defendant.

[Endorsed]: C. C. No. 1558. In the United States Circuit Court of Appeals, Ninth Judicial Circuit. Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation, Defendant. Citation on Writ of Error. Filed Mar. 26, 1912. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk.

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*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

### **Complaint for Damages.**

Comes now the plaintiff in the above-entitled action, and for cause of action against the defendant herein alleges:

#### **I.**

That the plaintiff is now and ever since the 22d day of June, 1909, has been a corporation organized and existing under and by virtue of the laws of the State of California, and it is now and has been at all times since said 22d day of June, 1909, a citizen of the State of California, and an inhabitant of the City of and County of Los Angeles, State of California, and its principal place of business is, and has been at all times since said 22d day of June, 1909,

in said City of and County of Los Angeles, State of California, in the Southern Division of the Southern District of the Ninth Circuit of the United States, and plaintiff is now, and has been at all times since said 22d day of June, 1909, engaged in the business of generating, manufacturing, and supplying gas and electricity to said city and vicinity, and to the [2\*] inhabitants thereof, as the successor in interest of the Los Angeles Gas and Electric Company.

## II.

Los Angeles Gas and Electric Company is now, and ever since the 29th day of March, 1904, has been, a corporation organized and existing under and by virtue of the laws of the State of California, and it is and was at all times herein mentioned a citizen of the State of California, and an inhabitant of the City of and County of Los Angeles, State of California, and its principal place of business is and was at all said times in said City of and County of Los Angeles, State of California, in the Southern Division of the Southern District of the Ninth Circuit of the United States, and was actively engaged in the business of generating and supplying gas and electricity to the City of Los Angeles and its inhabitants until the first day of August, 1909, at which time it ceased to operate any plants in the State of California.

## III.

That the defendant is now, and was at all times herein mentioned, a corporation duly organized and existing under and by virtue of the laws of the State

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\*Page-number appearing at foot of page of original certified Record.

of Indiana, and that it is a citizen of the State of Indiana, and an inhabitant of, and its principal place of business is at, Fort Wayne, in Allen County, in the State of Indiana, and that defendant was at all times mentioned herein, and is now, doing business in the County of Los Angeles, State of California.  
[3]

#### IV.

That at all times herein mentioned the defendant was, and still is, engaged in the business of manufacturing, selling and installing coal and water gas apparatus, including Extended Carburetter Superheater Water Gas Apparatus, to be used in gas plants for the purpose of producing and generating commercial gas.

#### V.

That upon the 8th day of April, 1907, the Los Angeles Gas and Electric Company, before mentioned, was desirous of purchasing a Water Gas Apparatus for the purpose of increasing the working capacity of its plant situated in the City of and County of Los Angeles, State of California, for the production and generation of gas, with the use of lamp-black, a by-product of its plant, for fuel; that the defendant was fully informed of the needs and requirements of the said Los Angeles Gas and Electric Company in this respect, and the character of its plant and needs, and the purpose for which it desired to purchase such Water Gas Set, and defendant thereupon proposed to the Los Angeles Gas and Electric Company to manufacture, install and sell to the said Los Angeles Gas and Electric Company,



an Extended Carburetter Superheater Water Gas Apparatus, of 2,700,000 to 3,000,000 cubic feet of gas per twenty-four (24) hours day capacity, to be used by the said Los Angeles Gas and Electric Company for the production and generation of gas, which proposal was in writing, addressed to the said Los Angeles Gas and Electric Company, and dated April 8th, 1907, and is hereinafter set forth. [4]

## VI.

That the Los Angeles Gas and Electric Company, solely by reason of each and every one of the representations and guaranties contained in said written proposal, hereinafter set forth, and relying thereupon, did accept defendant's said proposal and did thereupon enter into a written contract, in the City of Los Angeles, County of Los Angeles, State of California, with the defendant for the manufacture, installation, and sale by defendant of one 13'-0" x 12'-6" x 12'-0" Extended Carburetter Superheater Water Gas Apparatus, to be manufactured and installed by defendant at the plant of the Los Angeles Gas and Electric Company in the City of Los Angeles, County of Los Angeles, State of California, within five (5) months from date; defendant's said written proposal, dated April 8th, 1907, and defendant's specifications number 1389, hereinafter set forth, forming part of said contract, the whole of said contract being in words and figures as follows, to wit: [5]

**[Proposal by the Western Gas Construction  
Company.]**

**“THE WESTERN GAS CONSTRUCTION CO.**

Fort Wayne, Ind. April 8th, 1907.

Los Angeles Gas and Electric Co.,

Los Angeles, California.

Gentlemen:—

Referring to our proposal of gas apparatus and machinery in accordance with our specifications No. 1389, dated February 5th, 1907, specifying generally One 13'-0" x 12'-6" x 12'-0" Extended Carburetter Superheater Water Gas Apparatus, we beg to state that this apparatus is designed to have a capacity from two million eight hundred thousand to three million two hundred thousand cubic feet per day of twenty-four hours, with the use of good Anthracite coal or Gas House coke. With the use of lamp-black we guarantee that the apparatus will have a capacity of two million seven hundred and fifty thousand to three million cubic feet per day of twenty-four hours, using dry lamp-black.

We guarantee to make a good commercial gas, well fixed and non-condensable, of from twenty to twenty-two candle-power at the above rate per day, using not more than thirty-two pounds of dried lamp-black, or thirty-five pounds of lamp-black containing not more than 10% moisture, per thousand cubic feet of gas made.

We further guarantee that in the making of the above gas not more than four and one-half gallons of California Crude Oil of seventeen degrees

Baume, or over will be used per thousand cubic feet made.

We further agree that we will have the apparatus installed and in working order within five months from the date of this contract. In making the above agreement the Gas Company will be expected to aid our operators in fulfilling guarantee in so far as he may require modification of blast, dry steam, etc. This part of the machinery not being installed by us and consequently not under the direct supervision of our operator.

The apparatus specified we agree to furnish and we guarantee to secure the above stated results, for the sum as stated in our letter of February 9th, \$32,729.00, with an additional [6] price for floor of \$2,965.00 extra. You are to unload and place the machinery in your yard at convenient point for our erector to get at same. If you desire us to do the unloading from your switch, we will do so for the additional price of \$250.00.

We are enclosing regular contract, covering the above work in duplicate, one copy of which you will kindly sign and return to us, retaining the other for your own use.

Thanking you for your courtesy and assuring that we will give you a first class apparatus in every respect, we are

Yours truly,

THE WESTERN GAS CONSTRUCTION CO.,

Per B. S. PEDERSON, Agt.

BSP/JKT. [7]



**[Agreement Between the Western Gas Construction Company and Los Angeles Gas and Electric Company.]**

THE WESTERN GAS CONSTRUCTION CO.

Main Office)

and Works) Fort Wayne, Indiana.

This agreement, made the eighth day of April, in the year one thousand nine hundred and seven, by and between the Western Gas Construction Company of Fort Wayne, Ind., a corporation duly organized under the laws of the State of Indiana, party of the first part (hereinafter designated the "Contractor"), and Los Angeles Gas and Electric Company, Los Angeles, California, party of the second part (hereinafter designated the "Owner");

WITNESSETH, that the Contractor, in consideration of the covenants and agreements contained herein on the part of the Owner, does covenant, promise and agree with the said Owner, in manner following, that is to say:

1. Any part or portion of the Specifications which are struck out are not included in this agreement.

2. The Contractor shall and will well and sufficiently furnish, ERECT and finish, to the reasonable satisfaction of the Owner, subject to strikes, fires, freight blockades, all the Gas Apparatus and Machinery described and specified in its specification. No. 1389, comprising pages one to eleven inclusive, dated February 5th, 1907, the original being herewith delivered to and receipt thereof acknowledged by the Owner, and whereof an impression or dupli-

cate copy is retained by the Contractor, generally comprising the following apparatus:

One 13'-0" x 12'-6" x 12'-0" Extended Carburetter Superheater Water Gas Apparatus with charging floor for same.

3. The apparatus shall be accepted upon completion in accordance with the Specification.

4. The owner will receive and properly store at the expense of the Contractor all materials which may arrive before the erectors of the Contractor, will hold contractor harmless for damage to materials by fire or other causes, and afford all [8] necessary protection from depredation of any sort until acceptance of the apparatus, will use proper precaution to prevent the access of unauthorized persons to the premises where said work is being done.

5. The Owner shall furnish and provide the buildings inclusive of the foundations, all yard and other excavations, fillings and refillings, pavings, floors, openings in walls and roofs, flashings for stacks, etc., all necessary steam, oil, water and drain connections at respectively convenient points for the several apparatus, all connections and parts of the gas plant not specified in the before mentioned specification, in all respects suitable and sufficient, also openings or doors in the several rooms of suitable size to allow the apparatus of the Contractor to pass.

6. The owner shall have the building in proper condition for the erection of the Apparatus on its arrival otherwise pay Contractor for expenses necessarily incurred through such delay. Not during erection delay the progress of the work, otherwise

pay for time men are idle, and travelling expenses, (if necessary to leave work and return later to continue or complete same,) including any other expenses necessarily incurred through such delay.

7. It is hereby mutually agreed between the parties hereto, that the sum to be paid by the Owner to the Contractor for the proper execution of the provisions of this agreement shall be Thirty-five Thousand Six Hundred and Ninety-four Dollars (\$35,694.00), lawful money of the United States, payable at par in Fort Wayne, Indiana, as follows:

Fifty per cent of the contract price in proportion as material is shipped or delivered to the premises of the Owner; twenty-five per cent of the contract price in such sums as may be called for from time to time during the progress of the work (said amount to include all payments for account of freights, [9] advances to erectors and other sundry charges prior to the completion of the Apparatus) and the balance of the contract price thirty-five days after acceptance of apparatus as herein provided.

8. There are no understandings promises or agreements on the part of the Owner or Contractor outside of this contract and specifications noted above, together with terms, conditions, and limitations therein contained excepting,

Letter of Contractor to Owner dated April 8th, to be and is hereby made a part of this contract.

IN WITNESS WHEREOF, the said parties for themselves, their heirs, executors or assigns have signed this agreement in duplicate, by their agents

thereunto duly authorized, as of the day and year first above written.

THE WESTERN GAS CONSTRUCTION  
COMPANY,

By B. S. PEDERSEN.

LOS ANGELES GAS AND ELECTRIC  
COMPANY,

By T. P. McCREA,  
Purchasing Agent.

Witnesses for the Contractor,

J. K. TEETER.

Owner, C. A. LUCKENBACH. [10]

[Specifications for Gas Apparatus and  
Machinery.]

Specifications

For

Gas Apparatus and Machinery.

By

THE WESTERN GAS CONSTRUCTION CO.,  
Fort Wayne, Indiana.

For

THE LOS ANGELES GAS AND ELEC.  
COMPANY

Los Angeles, Cal.

Consisting Generally of

One 13' 0" x 12' 6" x 12'-0" Diameter.

Patented Extended Carburetter Super-  
heater Design of Water Gas Apparatus.

NUMBER

1389

DATE

2-5-07. [11]

SPECIFICATIONS

FOR 13' 0" x 12' 6" x 12' 0" DIAMETER

PATENTED.

EXTENDED CARBURETTER SUPERHEATER

DESIGN OF WATER GAS APPARATUS

FOR THE LOS ANGELES GAS AND ELECTRIC

CO.

LOS ANGELES, CALIF.

BY THE WESTERN GAS CONSTRUCTION

COMPANY,

FORT WAYNE, IND.

2-5-07.

In the following specifications, the Los Angeles Gas & Electric Company of Los Angeles, Cal., will be referred to as the Owner, and the Western Gas Construction Company of Fort Wayne, Ind., as the Contractor.

GENERATOR.

SHELL:

The generator shell will be 13' 0" in diameter by 20' 0" high inside, made of 5/16" steel. Bottom head will be constructed of two half heads of 3/8" steel, made with riveted butt and strap joint, and will be



connected to shell by means of 3" x 3" x 5/16" angle iron ring, riveted to head and shell. This angle iron ring will be properly connected at joints by means of butt straps.

Top head will be constructed of two half heads of 5/16" steel, connected together by means of butt and strap joint, and will be bolted to a 3" x 3" x 5/16" steel angle ring riveted around top of shell. Proper butt straps will be provided for this angle ring. Top head will be stiffened by means of two 8" I beams, riveted to head. The vertical seams of the two lower courses will be double riveted.

#### NOZZLES:

There will be provided three flanged and faced nozzles, riveted to shell; one 24" for blast connection, one 42" in diameter at top, and one 20" diameter at bottom for combination valve connection for up and down runs. Top head will have one flanged and faced nozzle bolted to center, carrying removable door frame and charging door fitted with track wheels, independent track, cottar bar and screws complete.

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#### DOORS:

Four grate cleaning, and two heavy ash pit doors, each 16" x 24," uniformly spaced for access to grate and ash pit of shell, will be bolted to shell at proper places; doors and frames faced and scraped to make tight self-sealing joints. Doors will have perforated steel protecting plates, and grate openings will be

fitted with cast iron liners provided with removable cast iron blocks.

#### **DIVIDED BLAST GRATE:**

The generator will be provided with our divided blast grate design, Patent No. 721,695, insuring UNIFORM distribution of air impinging directly against the entire bottom surface of the fuel bed. In the fire brick linings below the grate will be placed a cast iron blast box, securely bolted to shell and to outside blast nozzle. Five hollow bearing bars will be connected by bolted flanged openings to the blast box, the other ends of these bearing bars resting on expansion brackets secured in the lining. Grate bars of 2" square steel will be held in position, uniformly spaced 4" centers by protecting distance lugs on top of bearing bars. The hollow bearing bars are provided with individual blast ports, through which the divided air blast is directed against the fuel bed between the grate bars at any desired pressure, maintaining a uniform fire. A column with brackets will be provided which will support the centers of the middle three hollow bearing bars, relieving them from the strain consequent upon the weight of the grate bars and fuel.

#### **STEAM DISTRIBUTORS:**

The steam supply will be divided by means of special distributors placed between bearing bars and connected with the main steam supply pipe, insuring uniformity of steam supply over the entire bottom of the fuel. The divided blast and steam distribution insure a material increase in capacity of the generator, more complete combustion of fuel, fuller decom-

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position of steam, and less labor in cleaning fire.

Steam connection for "up runs" will be made to the special steam distributors below the grate, and for "down runs" the connection will be made to a hollow steel casting bricked in lining above the fuel, arranged to properly distribute the steam over the top of the fire.

### CHARGING DOOR:

The top charging door will be of our special design fitted with steel perforated protecting plate, and operated on floor track. A 1 1/4" sight cock will be fitted to the door for observation of heats. The door will be fitted to a removable seat or frame.

### DOUBLE LINING:

The generator will have a double lining 17" thick consisting of a face or inner lining of special quality fire brick 9" wide, backed by a lining or circle brick 6" wide, all carefully laid to break joints.

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A lagging consisting of 2" non-conducting asbestos material will be tamped between lining and shell. The generator will be lined in such a manner as to permit of the removal for repairs of the inside circle of lining, to a height of several feet above the grate bars, without disturbing the outer circle or the top lining of the generator. Our special, heavy tile grate door linings will be provided, giving access to the entire surface of the grate.



## COMBINATION VALVE CONNECTIONS.

### CONNECTIONS:

The generator and carburetter will be connected by means of our hydraulic operated combination valve system, consisting of one 36" valve of our water-cooled body and disc designed for "up runs," and one 20" valve of our ball valve design for "down runs," which combination provides for making up and down runs or reverse steam operation in generator.

### REVERSE SYSTEM:

The valves will be operated simultaneously by means of our hydraulic combination valve shifting arrangement mounted between the valves under the floor, leaving operating floor unobstructed, as the hydraulic cylinder is situated below the main valve. The water cooled valve fitted in the connection between generator and carburetter is so constructed that both body and disc may be constantly cooled by water circulating through same, and the stem of the valve is not exposed to the blast gases in either position of the valve. The main valve connection will be lined with special tile about 3" thick.

### CARBURETTER.

The carburetter will be of our extended carburetter design, with take-up flue, patent No. 790,296, 12' 6" in diameter x 27' 0" high inside. Shell will be made with the two lower courses 5/16" and the remaining courses 1/4" steel. Bottom head will be constructed of two half depth of 3/8" steel made with riveted butt and strap joint, and will be connected to the shell by means of 3" x 3" x 5/16" steel angle ring riv-

eted to head of shell. This steel angle ring will be properly connected at joints by means of a butt strap.

Top head will be constructed of two half heads of 5/16" steel, connected together by means of butt and strap joint, and will be bolted to a 3" x 3" x 5/16" steel angle ring riveted around top of shell. This angle iron ring will be properly connected at joints by means of butt straps. Top head will be properly stiffened by means of two 8" I beams riveted to head. The vertical seams of the two lower courses will be double riveted.

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#### NOZZLES:

One special blast box with 14" removable disc valve for blast connection; one 42" and 20" diameter nozzle for combination valves and one 36" x 48" nozzle for connection to bottom of superheater will be riveted to shell; nozzles except blast and down run nozzles, will be tile lines. One 24" nozzle with blank flanges and sight cock will be provided in top.

#### DOORS:

Seven cleaning doors, four 18" x 30" and three oval will be provided, three on each side of the shell at proper intervals for convenient access and for removal of checker brick; also a special cleaning door in bottom of ash pocket of uptake flue. Doors will be oval and rectangular, self-sealing, heavy pattern hinged design, with swinging cottar bars and screws for oval doors, the others being bolted to frame and

equipped with lifting handles.

#### DOUBLE LINING:

The Carburetter will have a double lining 12" thick consisting of an inner lining of special fire brick 6" wide, backed by an outside lining 4½" wide carefully laid to break joints. A 1½" asbestos material lagging will be solidly tamped between the outside course and the shell. The checker brick will be supported by means of heavy open, center supported, fire brick tile arch, thus relieving the shell from undue strain.

#### CARBURETTER UP-TAKE FLUE:

The internal up-take flue will be constructed of special lock joint tiles built into the lining. Lower end of the flue forms a collecting chamber for ashes and cinders blown over from the generator fuel bed, preventing their collection on carburetter checker brick. A cleaning door permits the periodical removal of ashes, etc., while the carburetter being 6" larger in diameter, still affords a greater net cross sectional area of checker brick than the superheater.

#### DIVIDED BLAST INLET:

Immediately above the top of uptake flue, and at right angles to same are located the special blast ports connecting with blast box and valve, insuring perfect and uniform distribution of combustion over top of carburetter checker brick.

#### OIL VAPORIZING CHAMBER:

The top of the carburetter forms a vaporizing and mixing chamber, into which the oil will be sprayed by our adjustable injectors, and partly vaporized and

mixed with the entering water gas before coming into contact with the hot checker brick; this arrangement forming our improved carburetter design for double superheater apparatus, Patent No. 529,269.

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The adjustable injectors will be recessed in special tile tubes, built in the side lining of vaporizer by which they are removed and protected from the direct action of the heat.

Carburetter will be fitted with three 1 $\frac{1}{4}$ " sight cocks at proper places for the observation of heats.

## SUPERHEATER.

The superheater will be of our extended superheater design, 12' 0" in diameter, x 35' 0" high inside. Shell will be made of  $\frac{3}{8}$ ",  $\frac{5}{16}$ " and  $\frac{1}{4}$ " steel, and vertical seams of three lower courses of shell will be double riveted. Bottom head will be constructed of two half heads of  $\frac{3}{8}$ " steel, made with riveted butt and strap joint, and will be connected to shell by means of 3" x 3" x  $\frac{3}{8}$ " angle iron ring, riveted to head and shell. This angle iron ring will be properly connected at joints by means of butt straps.

Top head will be constructed of two half heads of  $\frac{5}{16}$ " steel, connected together by means of butt and strap joint, and will be bolted to a 3" x 3" x  $\frac{5}{16}$ " steel angle ring riveted around top of shell. Proper butt straps will be provided for this angle ring. Top head will be stiffened by means of two 8" I beams, riveted to head.

## NOZZLES:

One blast nozzle for 12" blast valve and one 36" x 48" nozzle, tile lined, for connection to carburetter will be riveted to shell.

## DOORS:

Ten 18" x 30" and two oval cleaning doors will be fastened, six to each side of shell at proper intervals for convenient access and for the removal of checker brick. They will be of self-sealing, heavy pattern hinged design, with swinging cottar bar and screw for oval doors, the others being bolted to frames and equipped with lifting handles.

The stack tee on top of head will be 36" diameter tile lined to 30" with side branch 36" tile lined to 30" diameter for the outlet pipe connection to seal.

## STACK VALVE:

The 30" diameter stack valve will be bolted on top of stack tee, and will be operated by means of hinged rack and pinion floor stand, with polished hand wheel, and will be provided with hydraulic operating device of our special design as described under "Valves and Operating Mechanism."

## LINING:

The superheater will have a double lining 12" thick,

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consisting of an inner lining of special fire brick 6" wide, backed with a lining of circle brick 4½" wide, all carefully laid to break joints. A 1¼" thick asbestos lagging will be solidly tamped between the outside course and the shell.



The checker brick will be carried by means of our open center supported heavy tile arches, relieving the shell from undue strain.

The superheater will be fitted with two 1¼" sight cocks, at proper places for observation of heats.

#### STACK:

The stack will be about 48" in diameter, made of #10, gauge steel and of proper length to reach through the roof, lower end flared to about 60" diameter and supported from the roof or the top of superheater by means of steel braces.

#### SEAL.

#### SHELL:

Seal will be 108" in diameter x 60" high inside, made of 1.4" steel. Bottom head will be 5/16" flanged and riveted to shell. Top head of 5/16" steel properly stiffened with two 6" I beams, and bolted to a 3" x 2½" x 5/16" steel angle ring riveted around top of shell. Seal will be placed on top of main floor beams.

#### CONNECTIONS:

Inlet pipe will be 30" diameter enlarged inside of seal to 34" diameter, and outlet pipe 30" in diameter enlarged to 34" bolted respectively to top and bottom heads.

#### CLEANING BOX:

Our special design of cleaning out box with removable cover will be provided and bolted to top of the inlet pipe of the seal to facilitate cleaning of the superheater off-take pipe and preventing of carbon from filling the seal when cleaning.

## OVERFLOW:

Our special box with 6" adjustable overflow will be riveted to side of seal, and a 4" pipe flange will be riveted to bottom of seal to which a 4" valve will be attached to receive drain pipe connection to main seal or scrubber drain tank.

## DOORS:

Two 11" x 17" self-sealing manholes, frames and covers with cottar bars and screws will be riveted to shell. One 16" self-sealing cleaning door will be bolted to top head of shell above outlet for access to outlet pipe.

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## OVERFLOW TANK.

The overflow tank will be 30" inside diameter x 54" deep, made of 1/4" steel. Tank will be hung from operating floor projecting 6" above the floor and provided with 6" overflow pipe. Necessary 6' overflow piping for draining into the scrubber drain tank, connection with drain from seal will be provided to suit requirements.

## PIPE CONNECTION.

Cast iron flange pipe connections will be provided complete of sizes specified, connecting all apparatus to outlet nozzle of seal. (Connections for scrubber specified after this apparatus.) The connection of off-take pipe from stack tee to seal clean-out box will be provided with special cross fitted with two self-sealing cleaning covers and hinged cottar bars and screws.



**BLAST PIPE CONNECTIONS.**

All blast piping, together with suitable branches up to the automatic blast relief valves on generator and superheater and to the disc blast valve on carburetter is to be provided by the owner. If desired, however, the Contractor will submit a separate price for this work upon receipt of necessary information.

**BLAST RELIEF VALVES:**

The blast pipe will be connected to generator and superheater blast valves by cast iron flanged elbows; fitted with automatic blast relief valves consisting of spring flopper discs for relief of excessive pressure in blast pipes as well as forming safety vents.

**VALVES AND OPERATING MECHANISM.**

One set of two quick opening double gate blast valves and one disc valve of sizes specified, will be provided.

The generator and superheater blast valves and stack valve will be operated from neatly finished rack and pinion floor stands with polished wheels, independent of the hydraulic operating equipment specified below.

Carburetter blast valve will be provided with hand-wheel. Top and bottom steam supply to generator will be controlled by means of valves operated from neatly finished double steam stands bolted to the operating floor.

A uniform steam supply to generator is secured by our nozzle gauge arrangement.

**SPECIAL HYDRAULIC EQUIPMENT.**

Our special hydraulic operating device will be provided for valves for up and down runs, generator and

superheater blast valves and stack valves. This will consist of properly proportioned, direct acting hydraulic lifts, controlled by four-way hydraulic valves which are operated by hand-wheels from neatly

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finished floor stands. These valves will be grouped to permit of complete operation from one position of the operator, or will be arranged in a bank and operated by reversing levers.

**AUTOMATIC OIL SUPPLY SYSTEM.**

The oil system will be of our direct connected automatic operated arrangement of pump, meter, steam oil heater and injectors, in accordance with our Patent No. 528,872, by which a uniform and constant oil pressure is automatically maintained up to the operating oil valve of the carburetter. Pump to be furnished by Owner.

**OIL METER:**

One National special oil meter, of sufficient capacity with large vertical dial will be provided and set up in cast iron tray supported on neatly polished floor stands, placed in convenient location on the operating floor, and connected complete with oil pipe system.

**OIL HEATER:**

One special design, oil tight, steam oil heater 24" in diameter by 72" high, fitted with seamless drawn tubes, will be placed in convenient position in engine room and properly piped to meter, oil pump and oil injectors.

**INJECTORS:**

Eight removable, patented, adjustable injectors for spraying and atomizing the oil into top of the carburettor will be provided. The feed will be regulated through the adjustable needle valve arrangement and the supply will be controlled from the operating valve of main supply pipe.

A live steam connection will also be made for blowing out and cooling the injectors when required, our Patent No. 546,011. Injectors are placed in special tiles inside lining of vaporizing chamber, and protected from the flames.

**SMALL PIPING.**

Main steam, exhaust, water and oil supply pipes, also drain pipes are to be brought by the Owner to convenient points to within 5' of the respective apparatus to be connected by the Contractor as follows:

**STEAM:**

Steam connections will be made from such supplies to top and bottom of generator, gauge boards, and oil injector feed pipes.

**WATER:**

Water connections will be made to the water cooled valve, seal scrubber, condenser, and to the inlets of the fourway hydraulic valves.

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**OIL:**

Oil connections will be made to meter, heater, and injectors, all in accordance with our improved oil feed system Patent No. 528,872.

## DRAINS:

Connections will be made from over-flow tank to main drain connection, or drain wherever located.

## PIPE COVERING.

Pipe covering will be furnished for all the hot oil and live steam piping, provided by the Contractor for which sectional magnesia covering with brass bands will be used.

## GAUGE BOARD.

One ornamental special design and polished slate pressure board will be mounted on wall of the generator room, in convenient location, fitted with four pressure cups all nickle plated; also three nickle plated Bourdon spring gauges, for indicating the pressure in the oil piping, in the main steam supply pipe line, and also the nozzle pressure of the steam supply to the generator. A differential pressure gauge will also be provided on the gauge board, connected with the top and bottom of the generator for observation of the differential pressure, through the generator fuel bed.

A marine clock will be located immediately below the Bourdon dial gauges.

## SCRUBBER.

The scrubber will be 9' 6" in diameter by 24' 0" high, shell made of  $\frac{1}{4}$ " and  $\frac{5}{16}$ ", top and bottom heads of  $\frac{3}{8}$ " steel. Top heads will be bolted to steel angle rings riveted around top of shell, and bottom head flanged. The scrubber will be divided into compartments and necessary  $2\frac{1}{2}$ " x  $2\frac{1}{2}$ " x  $\frac{1}{4}$ " angle rings riveted to shell for seven layers of trays, which will be provided for supporting scrubbing material.

Nine 11" x 17" manhole frames with self-sealing doors, and cottar bars; one 30" nozzle for inlet and one 24" nozzle for outlet and one 6" drain flange or nozzle, all faced, will be riveted to shell at proper places. One of the manholes will be placed in top head. Removable water sprays will be furnished with necessary water piping to main supply as specified previously.

### CONDENSER.

The water tube condenser will be 9' 6" in diameter x 25' high, containing three hundred and eighty (380) 3" tubes; 22' long. Shell will be made of  $\frac{1}{4}$ " and  $\frac{5}{16}$ " tank steel; tube heads will be  $\frac{7}{16}$ " thick into which the tubes will be properly expanded. Bottom head will be made of  $\frac{3}{8}$ " steel flanged, and the top of

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the shell will be stiffened by means of a  $2\frac{1}{2}$ " x 3" x  $\frac{5}{16}$ " steel angle ring.

Between the tube heads will be arranged three baffle plates for directing the flow of gas at right angles to the tubes.

24" inlet and outlet nozzles, 6" drain nozzles, and two 11" x 17" heavy manhole frames with tap bolted cast iron covers will be riveted to the shell at proper points. Six hand-holes with covers, crabs, bolts and nuts complete will be provided for cleaning immediately above the lower tube head. The bottom and top compartments will be tapped for water connections, which will be connected to the water supply.



### DRAIN TANK.

The drain tank for scrubber will be 36" in diameter x 60" deep, made of  $\frac{1}{4}$ " steel. Cast iron hub nozzle will be riveted to shell for drain connection and cover in halves will be furnished; drain tank to receive drain pipes from seal and overflow tank, *we* well as drain from scrubber and condenser.

### PIPE CONNECTIONS FOR SCRUBBER AND CONDENSER.

Connections from the outlet of seal to the inlet of scrubber will be 30", fitted with one 30" valve. Outlet from scrubber will consist of one 24" flanged nozzle, which will be connected to a 24" flanged nozzle acting as the inlet to the condenser. The condenser outlet will consist of a 24" flanged nozzle, to which will be bolted a 24" angle valve and from this point the owner will continue the piping.

### CHARGING FLOOR.

#### PLATES:

The charging floor will be about 32' x 57'. The Floor will be constructed of checker faced cast iron plates of suitable size to properly fit together and around shells of apparatus:

#### BEAMS:

Plates will be supported and fitted on 5" transverse I beams, which will be carried on 10" and 8" longitudinal I beams supported on wall and on brackets on shell, all provided and erected by the Contractor.

The whole structure will be designed to carry a safe load of 150 pounds per sq. ft.

### STAIRWAY AND RAILING.

The stairway built of 10" channel stringers with



wooden treads, bolted to the stringers will be provided and erected in convenient location for access to the charging floor. Hand rails and standards will be provided for same.

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All exposed openings will be guarded by neat pipe railing supported on pipe standards fastened to the floor.

FIRE TOOLS.

There will be provided one complete set of fire tools to be used in clinkering the generator fires.

SHELL WORK.

All shell work will be free from bucklets and other mechanical defects. All outside edges of sheets will be bevel sheared and joints caulked gas tight. All castings where riveted to shell will be metal to metal, and shell chipped and caulked to cast iron to insure tight work. Rivets in shell will be spaced according to best practice.

GENERAL.

The foregoing specifications are intended to include all work and material of every description necessary to complete one double superheater set of water gas apparatus, as intended by these specifications in a thorough and workmanlike manner, whether specifically mentioned or not.

The owner will furnish the necessary foundations, openings and flashings in roof as well as provide necessary openings in walls for pipes and admission of all apparatus, without expense to the Contractor.

The Contractor will furnish complete foundation plans for apparatus and necessary drawings, if desired, for buildings.

The Gas Company will unload and cart all material from nearest Railroad switch on arrival and deliver same to the Contractor, outside of generator house.

On completion of the plant all shell and pipe will receive a fine coat of metallic paint, and everything shall be left in a neat and workmanlike manner.

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## VII.

That thereafter the defendant manufactured at its plant in Fort Wayne, Indiana, delivered and installed at the plant of the Los Angeles Gas and Electric Company, in the City of Los Angeles, California, an Extended Carburetter Superheater Water Gas Apparatus, purporting to be in accordance with the contract, hereinbefore set forth, and the Los Angeles Gas and Electric Company paid the defendant on account of the purchase price under said contract, the sum of Seventeen Thousand Eight Hundred and Forty-seven Dollars (\$17,847.00), in accordance with the provisions contained in said contract for the payment of fifty (50%) per cent of purchase price upon arrival of materials, Fifteen Thousand Dollars (15,000.00) of said sum being paid by the Los Angeles Gas and Electric Company to defendant on September 1, 1907, and Two Thousand Eight Hundred Forty-seven Dollars (\$2,847.00) on October 22, 1907;

further the said Los Angeles Gas and Electric Company paid on account of the defendant, for freight on said apparatus, the sum of Three Thousand Nine Hundred Thirty-eight and 49/100 Dollars (\$3,938.49), in accordance with the provisions of said contract for the payment of freight; further, the said Los Angeles Gas and Electric Company paid on account of the defendant, for expressage on said apparatus, the sum of One Hundred One and 30/100 Dollars (\$101.30), in accordance with the provisions contained in said contract for the payment of expressage; further, the Los Angeles Gas and Electric Company, on the 20th of February, 1908, paid on account of the defendant, for hauling of a part of said apparatus, the sum of Two Dollars (\$2.00), in accordance with the provisions of said contract for the payment of said hauling; [23] further, the Los Angeles Gas and Electric Company advanced to defendant's authorized agent and "erector," upon demand made by said agent and "erector" for money necessary to prosecute the setting up and installation of said apparatus, the sum of Four Thousand Nine Hundred Thirty-four and 66/100 Dollars (\$4,934.66), in accordance with the provisions contained in said contract for payment to said "erector" of such sums as he might need. That the defendant has at all times retained all of said money paid and advanced to the defendant by the Los Angeles Gas and Electric Company as aforesaid.

Further, the Los Angeles Gas and Electric Company, at all times fully and completely performed each and every and all conditions upon its part under

said contract, hereinbefore set forth.

### VIII.

That the defendant did, after the installation of its said apparatus, proceed to test and operate same, and the defendant did make two complete tests of its said apparatus. That said apparatus never operated fully or completely or successfully, or in any respect approached, or fulfilled all or any of the guaranties in the contract hereinbefore set forth, during the said tests, but without any fault on the part of the said Los Angeles Gas and Electric Company, said apparatus did at all times during the said tests carried on by defendant, fail to make the quantities and quality of gas, with the economy of fuel or oil set forth in said contract, that said apparatus did at no time during any period [24] of twenty-four (24) hours in either of said tests produce as much as the minimum quantity of gas provided for and guaranteed in said contract; that said apparatus did not at any time during said tests produce gas upon a consumption of thirty-five (35) pounds, or less, of lamp-black containing not more than ten (10) per cent of moisture per thousand cubic feet of gas made, as provided and guaranteed in said contract; that said apparatus did not at any time during said tests produce gas upon a consumption of four and one-half ( $4\frac{1}{2}$ ) gallons or less, of California crude oil of 17 degrees Baume, or over, per thousand cubic feet of gas made, as provided in said contract; that said apparatus at no time during said tests was able to perform, or did perform, according to the said contract, but at all times during said tests said apparatus produced much less

than two million seven hundred and fifty thousand (2,750,000) cubic feet of gas per day of twenty-four (24) hours; that said apparatus did at all times during said tests consume far in excess of thirty-five (35) pounds of lamp-black containing less than ten (10%) per cent of moisture, per thousand cubic feet of gas made; that said apparatus did consume far in excess of four and one-half ( $4\frac{1}{2}$ ) gallons of California crude oil of not less than 17 degrees Baume per thousand cubic feet of gas made; that said increased consumption of oil and fuel during said tests greatly increased the cost of production of gas by said apparatus per thousand cubic feet of gas made, over and above what the cost would have been under the guaranteed consumption, set forth in the contract.

That the said gas made by said apparatus during said tests was not "good commercial gas well fixed and non-condensable," [25] but that said gas was at all said times of excessive heat, condensable and not fixed, and contained a great percentage of aqueous vapor and tar substances.

That the generator in said apparatus was during said tests defective in construction, arrangement and plan, in that it was unable to sustain the fire bed to a sufficient height to enable the apparatus to reach the contract gas making capacity, or even approach same, and in that it was unable to bring the entire fuel bed to the proper incandescence for gas making purposes, and in that it was unable to generate sufficient water gas to enable the defendant's apparatus to fulfill the contract guarantees as to gas making capacity.



That defendant also failed to complete said apparatus in accordance with specifications number 1389, provided in said contract, in that defendant failed to equip said apparatus with the "hydraulic operated combination valve system" connecting the generator and carburetter, as specified on page 3 of Specifications Number 1389, but defendant instead thereof, equipped said apparatus with a 36-inch disc valve of water cooled body, and said valve so furnished was to the knowledge of defendant, cracked and useless, and seriously interfered with the operation of said apparatus; in that the defendant failed to complete the "charging floor," and left portions of it unlaidd, and other portions loosely fastened; in that the defendant failed to paint the shell and pipe with metallic paint, as provided for on page 11 of the Specifications Number 1389; in that the defendant failed to provide said apparatus with a "divided blast grate," insuring uniform distribution of air impinging directly against the entire bottom surface of the fuel bed; [26] in that defendant failed to equip said apparatus with "special distributors," "insuring uniformity of steam supply"; and in that defendant failed to equip said apparatus with "adjustable injectors" for vaporization of oil in the carburetter.

#### IX.

That said apparatus was during, and at the completion of said tests, of no value to the Los Angeles Gas and Electric Company, by reason of the failure of said apparatus to perform according to the terms and guarantees of said contract, and its uncompleted



condition, as heretofore set forth, and the said Los Angeles Gas and Electric Company refused at all times to accept said apparatus, and never did accept same, and said apparatus is now, and has been at all times, the sole property of the defendant, and is now and always has been subject to defendant's right to remove and dispose of same.

#### X.

That the Los Angeles Gas and Electric Company after the aforesaid tests, demanded of the defendant that it return to the said Los Angeles Gas and Electric [27] Company the money so far advanced to it by said Los Angeles Gas and Electric Company under said contract, as hereinbefore set forth, and upon the refusal of the said defendant to return all or any part of the said money, the Los Angeles Gas and Electric Company commenced an action at law on the 24th day of July, 1908, against the defendant herein in the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division, to recover Thirty-five Thousand Fifty and 80/100 Dollars (\$35,050.80) damages from said defendant for the failure to perform the contract hereinbefore set forth. That the defendant was served with a copy of the complaint and summons in said action at law and appeared in said court in response thereto.

#### XI.

Thereafter, on or about the first day of July, 1909, the defendant inquired of the said Los Angeles Gas and Electric Company if it were possible for the said parties to adjust the controversy existing between

them without litigation, and thereafter, on the 12th day of July, 1909, with the express intent and purpose of finally settling and disposing of the controversy and litigation which had arisen between them as aforesaid, the said Los Angeles Gas and Electric Company and the defendant entered into a contract, executed and delivered in the City of and County of Los Angeles, State of California, in words and figures as follows, to wit: [28]

**[Contract Between The Western Gas Construction Company and Los Angeles Gas and Electric Company.]**

THIS AGREEMENT made and entered into this 12th day of July, 1909, by and between the Western Gas Construction Company, a corporation of Fort Wayne, Indiana, party of the first part, and the Los Angeles Gas and Electric Company, a corporation of Los Angeles, California, party of the second part.

WITNESSETH: Whereas the parties hereto did on the 8th day of April, 1907, enter into a contract by which the party of the first part herein, agreed to furnish and install at the plant of the party of the second part an Extended Carburetter Superheater Water Gas Apparatus, and

WHEREAS: the said party of the first part did furnish and install at the plant of the party of the second part, an Extended Carburetter Superheater Water Gas Apparatus, and the party of the second part did pay the party of the first part a portion of the contract purchase price therefor, to wit: Twenty-six Thousand Eight Hundred Twenty-three and 45/100 (\$26,823.45) Dollars, and

WHEREAS litigation has arisen between the said parties hereto concerning the question as to whether or not the said Extended Carburetter Superheater Water Gas Apparatus furnished and installed by the party of the first part as aforesaid, was in accordance with said contract, and whether or not the said Apparatus so furnished and installed, could produce the amount of gas guaranteed in said contract, and

WHEREAS, the parties hereto now desire to finally dispose of and settle the controversy which has arisen between them concerning said apparatus,

NOW, THEREFORE, BE IT AGREED:

1. That the party of the first part will at once proceed, and with as much expedition as possible make such changes in said apparatus as it may desire for a preliminary experiment with said Apparatus for the determination of the character of changes or alterations it may desire to make preparatory to a final test of said apparatus; that the said party of the first part will immediately after said preliminary experiment, and with as much expedition as possible, make such changes in said Apparatus as it may desire for the final test, which changes shall in part consist of—

1st. A new generator or generators, in place of the present generator now a part of said set.

2nd. Provide ample means for the collection and easy removal of dust and fine carbon carried from the generator to the carburetter.

3rd. Provide ample and satisfactory means for scrubbing and condensing of gas made.

and that after said changes are made said party of

the [29] first part shall at once proceed to make gas with said set, of the kind specified in said contract, with the same economy of fuel and oil mentioned in said contract.

2. It is agreed that if in said test said party of the first part shall bring said Apparatus to a gas making capacity of two million (2,000,000) cubic feet per twenty-four (24) hours, of the kind of gas mentioned in said contract, with the same economy of lamp-black fuel, containing not more than ten (10%) per cent moisture, and oil mentioned in said contract, then the party of the first part will accept as full payment for said Apparatus Twenty-six Thousand (\$26,000.00) Dollars, and in making this payment, Twenty-six Thousand (\$26,000.00) Dollars of the sum of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 (\$26,823.45) Dollars already paid by the party of the second part, to party of the first part, shall be deemed as the payment hereunder, the balance of said sum, to wit, Eight Hundred Twenty-three and 45/100 (\$823.45) Dollars, to be returned by said first party to party of the second part.

If the party of the first part shall, in said test, bring said Apparatus to the capacity of two million seven hundred and fifty thousand (2,750,000) cubic feet per twenty-four (24) hours of the kind of gas specified in said contract, with the same economy of lamp-black fuel, containing not more than ten (10%) per cent moisture, and oil mentioned in said contract, then the party of the first part will accept as full payment for said Apparatus the original contract

price, to-wit, Thirty-five Thousand Six Hundred Ninety-four (\$35,694.00) Dollars, the payment of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 (\$26,823.45) Dollars already made by party of the second part to be applied on the payment aforesaid.

And it is agreed that if said party of the second part shall during said test, bring said apparatus to a gas making capacity between two million (2,000,000) cubic feet per twenty-four (24) hours and two million seven hundred and fifty thousand (2,750,000) cubic feet per twenty-four (24) hours, of the kind of gas mentioned in said contract, with the same economy of lamp-black fuel, containing not more than ten (10%) per cent moisture, and oil mentioned in said contract, said party of the second part will will pay for said Apparatus for each fifty thousand (50,000) cubic feet of gas per twenty-four (24) hours capacity over and above two million (2,000,000) cubic feet per twenty-four (24) hours, a sum proportionate between the said sum of Twenty-six Thousand (26,000.00) Dollars herein agreed to be paid for said two million (2,000,000) cubic feet capacity per twenty-four (24) hours, and the sum of Thirty-five Thousand Six Hundred and Ninety-four (\$35,694.00) Dollars, for said two million seven hundred and fifty thousand (2,750,000) cubic feet capacity per twenty-four (24) hours, and in making any of the aforesaid payments, the amount of Twenty-six thousand Eight Hundred Twenty-three and 45/100 (\$26,823.45) Dollars already paid by the party [30] of the second part shall be ap-



plied on the payment thereunder.

And it is agreed that the capacity of said Apparatus shall be determined solely as follows: The party of the first part shall notify the party of the second part when it is ready for the final test of said Apparatus, and the average capacity per twenty-four (24) hours of said set during said test, which shall not be less than twenty (20) consecutive days, shall constitute the capacity of said Apparatus for all the purposes hereunder.

3. And the party of the first part agrees that if said party of the first part cannot, during said test, bring said Apparatus to an established capacity as herein defined, of at least two million (2,000,000) cubic feet per twenty-four (24) hours, of the kind of gas specified in said contract, with the same economy of oil and lamp-black fuel containing not more than ten (10%) per cent of moisture mentioned in said contract, said party of the first part will remove at once without any cost to the party of the second part, said Apparatus from the premises of the party of the second part, and repay to said party of the second part all money heretofore paid or advanced by said party of the second part to said party of the first part under said contract, to wit: Twenty-six Thousand Eight Hundred Twenty-three and 45/100 (\$26,823.45) Dollars.



44 *Los Angeles Gas and Electric Corporation*

In Witness Whereof, the parties have hereunto affixed their hands and the seals by their agents duly authorized.

THE WESTERN GAS CONSTRUCTION  
COMPANY.

By B. S. PEDERSEN,  
Agent.

LOS ANGELES GAS AND ELECTRIC  
COMPANY.

By T. P. McCREA,  
Purchasing Agent.

Approved as to form.

WM. A. CHENEY,  
General Counsel.

That after the execution of said contract, and before the commencement of this action, the said action brought by the said Los Angeles Gas and Electric Company against the defendant herein, as heretofore set forth, was dismissed by the plaintiff therein, without prejudice. That the Los Angeles Gas and Electric Company at all times fully and completely performed each, every and all conditions upon its part under said contract of July 12, 1909, hereinbefore set forth. [31]

XII.

That on the first day of August, 1909, the Los Angeles Gas and Electric Company did, for a valuable consideration, duly *and transfer* and assign unto the plaintiff herein all its properties and business, and did at said time, for a valuable consideration, duly sell, transfer and assign to the plaintiff herein, its sucessor in interest, all its rights, inter-

ests and liabilities under and by virtue of its contracts of April 7, 1907, and July 12, 1909, with the defendant, hereinbefore set forth, and the plaintiff did on said 1st of August, 1909, for a valuable consideration, accept said assignment and assume all the obligations and liabilities under said contracts, and agreed to perform said contracts according to their terms and conditions.

### XIII.

That the defendant was immediately notified of the aforesaid assignments of said contracts, and did on the 6th day of August, 1909, consent in writing to the aforesaid assignments.

### XIV.

That after the execution of said contract of July 12, 1909, the defendant made certain alterations in its said apparatus, preparatory to the preliminary test as in said contract of July 12, 1909, provided, and on the 29th day of July, 1909, commenced said preliminary test, and defendant on the 14th day of August, 1909, shut down its said apparatus, having completed its preliminary test under said contract.

[32]

### XV.

That thereafter the defendant made such changes in its said apparatus as it desired for the final test of said apparatus. That on the 28th day of February, 1910, the defendant notified the plaintiff that it would commence its final twenty (20) day test of said apparatus, on the morning of March 10th, 1910, at 6:00 o'clock A. M., as provided for in the aforesaid contract of July 12, 1909. That on the 10th

day of March, 1910, the defendant commenced said final test under said contract of July 12, 1909. That on the 30th day of March, 1910, at 6:00 o'clock A. M., the defendant completed its said final test, and notified plaintiff to that effect and shut down its said apparatus and ceased making gas therein.

#### XVI.

That the defendant, without any fault on the part of the plaintiff, failed during said final test under said contract of July 12, 1909, to bring its said apparatus to an established gas making capacity as defined in said contract, of at least two million (2,000,000) cubic feet per 24 hours of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, provided for in said contract; that said apparatus did not during said final test obtain or reach an average capacity of two million (2,000,000) cubic feet of gas per 24 hours for twenty (20) consecutive days, but during said test said apparatus produced an average of much less than two million (2,000,000) cubic feet of gas per 24 hours; [33] that said apparatus did not during said test produce gas upon an average consumption of thirty-five (35) pounds, or less, of lamp-black containing not more than ten (10%) per cent moisture, per thousand cubic feet of gas made, but said apparatus did during said test consume on the average, thirty-nine and  $58/100$  (39.58) pounds of lamp-black containing less than ten (10%) per cent of moisture, per thousand cubic feet of gas made; that said apparatus did not at any time during said test pro-

duce gas of the quality or candle power equal to that specified in said contract of July 12, 1909; that said increased consumption of lamp-black by said apparatus during said test, over and above that provided in said contract, and the decreased gas-making capacity of said apparatus, from that provided for in said contract, greatly increased the cost of production of gas by said apparatus, per thousand cubic feet of gas made, over and above what the cost would have been had defendant's apparatus performed according to the guarantees of said contract. That said apparatus is of no value to plaintiff, by reason of its failure to perform according to said contract.

## XVII.

That after said final test defendant abandoned its said apparatus and left it at plaintiff's plant, unused by plaintiff, in a defective, unfinished, incomplete and dilapidated condition, as hereinafter set forth, to wit, the charging floor is loosely laid, the plates thereof being illy fitted, making said [34] floor uneven and unsightly in appearance, and unfit for the proper use of lamp-black fuel in said apparatus; the top of the generator is in a dilapidated condition, being insufficiently reinforced, and leaky, allowing gas, tar and oil to escape; the charging floors are in a leaky condition where they are bolted to the top head of the generator; that 20" Crane Gate Valve installed by defendant is installed in a temporary and imperfect manner and is not sufficiently installed for a permanent and successful operation of the apparatus; a large part of the brick work in

the carburetter is broken down and unfit for proper operation; the cast-iron connecting pipe between the carburetter and superheater is in a leaky condition, and patched in a temporary manner by means of cement; the checker brick in the superheater is in a crumbled and broken condition; that said apparatus has never been painted with metallic paint; that by reason of the aforesaid dilapidated condition said apparatus is in no condition to be further operated without first making extensive repairs thereon; and the expending of a large amount of money.

### XVIII.

That the plaintiff at all times fully and completely performed each, every and all conditions upon its part under said contracts, hereinbefore set forth.

That plaintiff has never accepted said apparatus, and said apparatus is now and has been at all times the sole property of the defendant, and is now and always has been subject to defendant's [35] right to remove and dispose of same; that said apparatus is now of no value, and never has been of any value to plaintiff, by reason of its unfit and dilapidated condition and failure to attain an established capacity, as defined in said contract, of at least two million (2,000,000) cubic feet per 24 hours, of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, according to said contract of July 12, 1909, as hereinbefore set forth.

### XIX.

That by reason of the failure of said apparatus to attain an established capacity, as defined in said



contract, of two million (2,000,000) cubic feet per 24 hours, of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, according to the contract of July 12, 1909, the plaintiff did on the 5th day of April, 1910, and on the 8th day of April, 1910, demand of the defendant that the defendant immediately return to the plaintiff the sum of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 Dollars (\$26,823.45), and at once remove its said apparatus from plaintiff's premises, at defendant's own cost and expense, as in said contract provided.

XX.

That the defendant has failed, neglected and refused at all times to return to the plaintiff said sum of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 [36] Dollars (\$26,823.45), or any part thereof, or to remove its said apparatus from plaintiff's premises.

XXI.

That the lowest cost for which plaintiff can have said apparatus belonging to defendant removed from plaintiff's premises at the present time is Fifteen Hundred (\$1500.00) Dollars.

XXII.

That by reason of the failure and refusal of defendant to return to plaintiff said sum of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 Dollars (\$26,823.45), and to remove said apparatus from plaintiff's premises as aforesaid, plaintiff has been damaged in the sum of Twenty-



eight Thousand Three Hundred Twenty-three and 45/100 Dollars (\$28,323.45).

WHEREFORE, plaintiff prays judgment against defendant in the sum of Twenty-eight Thousand Three Hundred Twenty-three and 45/100 Dollars (\$28,323.45), with interest thereon from date at the legal rate of interest, together with its costs herein incurred.

WM. A. CHENEY,  
HERBERT J. GOUDGE,  
LE ROY M. EDWARDS,  
Attorneys for Plaintiff. [37]

State of California,  
County of Los Angeles,—ss.

R. M. Adams, being first duly sworn, deposes and says: That he is an officer, to wit, Secretary, of the corporation plaintiff mentioned in the foregoing complaint; that he has read the said complaint and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters therein stated on information or belief, and as to those matters, that he believes it to be true.

[Seal]

R. M. ADAMS.

Subscribed and sworn to before me this 3d day of May, 1910.

PAUL OVERTON,  
Notary Public in and for the County of Los Angeles,  
State of California.

[Endorsed]: Original. No. 1558. Dept.... In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern

Division. Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation. Complaint for Damages. Received copy of the within Complaint this . . . . day of . . . . ., 1910. . . . ., Attorney for Defendant. Filed May 3, 1910. Wm. M. Van Dyke, Clerk. Harry H. Jones, Deputy. Wm. A. Cheney, LeRoy M. Edwards, Herbert J. Goudge, 645 So. Hill St., Los Angeles, Cal., Attorneys for Plaintiff. [38]

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[Summons.]

UNITED STATES OF AMERICA.

*Circuit Court of the United States, Ninth Circuit,  
Southern District of California, Southern  
Division.*

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,  
Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,  
Defendant.

Action brought in the said Circuit Court and the Complaint filed in the office of the Clerk of said Circuit Court, in the City of Los Angeles, County of Los Angeles.

The President of the United States of America,  
Greeting: To the Western Gas Construction Company, a Corporation.

You are hereby required to appear in an action

brought against you by the above-named plaintiff, in the Circuit Court of the United States, Ninth Circuit, in and for the Southern District of California, Southern Division, and to file your plea, answer or demurrer, to the complaint filed therein (a certified copy of which accompanies this summons), in the office of the Clerk of said Court, in the City of Los Angeles, County of Los Angeles, within twenty days after the service on you of this summons, or judgment by default will be taken against you.

The said action is brought to recover the sum of \$28,323.45, in which sum plaintiff alleges it has been damaged as follows: in the sum of \$26,823.45, by reason of the failure and refusal of defendant to return to plaintiff the sum of \$26,823.45 advanced by the Los Angeles Gas and Electric Company to defendant on account of the purchase price of certain apparatus under two certain contracts entered into between the Los Angeles Gas and Electric Company and the defendant, with the terms of which said contracts the defendant has failed to comply; plaintiff further alleges that the Los Angeles Gas and Electric Company, on August [39] 1st, 1909, did, for a valuable consideration, duly sell, transfer and assign to the plaintiff herein, all its rights, interests and liabilities under and by virtue of its said contracts with the defendant, and the plaintiff did, for a valuable consideration accept said assignment and assume all the obligations and liabilities under said contracts, and agree to perform said contracts according to their terms and condi-

tions; plaintiff further alleges that the defendant did consent in writing to the aforesaid assignments; plaintiff further alleges that the lowest cost for which plaintiff can have the apparatus belonging to defendant removed from plaintiff's premises, at the present time, is \$1,500.00; plaintiff further prays judgment for interest on said sum of \$28,323.45 at the legal rate of interest, together with its costs herein incurred, and if you fail to appear and plead, answer or demur, as herein required, your default will be entered and the plaintiff will take judgment for the sum demanded in the Complaint, viz., \$28,323.45, together with interest and costs of suit.

Witness the Honorable MELVILLE W. FULLER, Chief Justice of the United States, this 14th day of May, in the year of our Lord one thousand, nine hundred and ten and of our Independence the one hundred and thirty-fourth.

[Seal]

WM. M. VAN DYKE,

Clerk.

By Chas. N. Williams,

Deputy Clerk. [40]

United States Marshal's Office,  
Southern District of California.

I hereby certify, that I received the within writ on the 23d day of May, 1910, and personally served the same on the 23d day of May, 1910, upon the Western Gas Construction Company, a corporation, by handing to and leaving with B. S. Pederson personally, the Agent of the said Western Gas Construction Company, a corporation, said defendant named therein, personally, at the City and County of San

Francisco in said District, an attested copy thereof, together with a certified copy of the Complaint, certified to by Clerk U. S. Circuit Court at Los Angeles, attached thereto.

San Francisco, Cal., May 23rd, 1910.

C. T. ELLIOTT,  
U. S. Marshal.  
By B. F. Towle,  
Office Deputy.

[Endorsed]: Original. Marshal's Docket No. 5467. Marshal's Civil Docket No. 1506. No. 1558. U. S. Circuit Court, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas and Electric Corporation, a Corporation, vs. The Western Gas Construction Company, a Corporation. Summons. Wm. A. Cheney, LeRoy M. Edwards, Herbert J. Goudge, Plaintiff's Attorney. Filed May 24, 1910. Wm. M. Van Dyke, Clerk. Chas. N. Williams, Deputy. [41]

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*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.



**Demurrer.**

The defendant demurs to the complaint herein and for cause of demurrer alleges:

That said complaint does not state facts sufficient to constitute a cause of action.

OSCAR A. TRIPPET,  
Attorney for Defendant.

I HEREBY CERTIFY that, in my opinion, the foregoing demurrer is well founded in point of law.

OSCAR A. TRIPPET,  
Attorney for Defendant.

[Endorsed]: (Original.) No. 1558. Dept . . . . .  
In the Circuit Court of the United States, 9th Circuit, So. Dist. of Cal., So. Div. Los Angeles Gas & Electric Corporation, Plaintiff, vs. Western Gas Construction Co., Defendant. Demurrer. Received Copy of the Within Demurrer this 13 day of June, 1910. L. W. Edwards, Wm. A. Cheney, Attorneys for Pltf. Filed Jun. 13, 1910. Wm. M. Van Dyke, Clerk. Chas. N. Williams, Deputy. Oscar A. Trip-pet, 315 Coulter Bldg., 213 So. Broadway, Los Angeles, Cal., Attorney for Defendant. [42]



*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

**Amended Demurrer.**

The defendant files this, its amended demurrer, and for cause of demurrer alleges:

I.

That said complaint does not state facts sufficient to constitute a cause of action.

II.

That said complaint is uncertain in this:

The following allegation in paragraph numbered XVI. of said complaint is uncertain, to wit:

“That the defendant, without any fault on the part of the plaintiff, failed during said final test under said contract of July 12, 1910, to bring its said apparatus to an established gas making capacity as defined in said contract of at least two million (2,000,000) cubic feet per 24 hours of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, provided for in said contract”;

It cannot be determined from said allegation what the pleader meant by "established gas-making capacity as defined in said contract." There is nothing in the complaint to show what the plaintiff understands to be the capacity as defined in said contract.

That the following sentence in paragraph numbered XVI of said complaint is uncertain: [43]

"That said apparatus did not at any time during said test produce gas of the quality or candle-power equal to that specified in said contract of July 12, 1909."

It cannot be told from said allegation what the plaintiff means by "quality of gas"; whether the plaintiff means that said gas was good gas, good commercial gas, or whether the same was well fixed or non-condensable.

It cannot be determined from said allegation what the plaintiff means in said complaint by "candle-power equal to that specified in said contract"; whether the plaintiff means to allege that said candle-power was not twenty candle-power or twenty-two candle-power, or what other matter the plaintiff means by "equal," or what plaintiff regarded as specified in said contract.

The following allegation in said complaint in paragraph numbered XVIII of said complaint, to wit:

"That said apparatus is now of no value, and never has been of any value to plaintiff, by reason of its unfit and dilapidated condition and failure to attain an established capacity, as defined in said contract, of at least two million (2,000,000) cubic feet per 24 hours, of the kind of

gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, according to said contract of July 12, 1909, as hereinbefore set forth,"—

is uncertain, in that there is nothing to show what the plaintiff considered the capacity as defined in said contract, or the kind of gas specified in said contract.

The following allegation contained in paragraph numbered XIX of said complaint, is uncertain, to wit:

“That by reason of the failure of said apparatus to attain an established capacity, as defined in said contract, of two million (2,000,000) cubic feet per 24 hours, of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, according to the contract of July 12, 1909,”—

in that there is nothing in said complaint to make certain what the plaintiff means by the capacity defined in said [44] contract or specified in said contract.

### III.

Said complaint is ambiguous in the same respects that the same is alleged to be uncertain, as aforesaid.

### IV.

That said complaint is unintelligible in the same respects that the same is alleged to be uncertain, as aforesaid.

OSCAR A. TRIPPET,  
Attorney for Defendant.

[Endorsed]: Original. No. 1558. In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas & Electric Corporation, Plaintiff, vs. The Western Gas Construction Company, Defendant. Amended Demurrer. Rec'd. Copy of Within Amend. Demurrer this 5th day of July, 1910. Wm. A. Cheney, LeRoy M. Edwards, By J. W. L. Filed Jul. 5, 1910. Wm. M. Van Dyke, Clerk. Chas. N. Williams, Deputy. Oscar A. Trippet, Attorney at Law, 315 Coulter Building, 213 So. Broadway, Los Angeles, Cal. [45]

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*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

### **Amendments to Complaint.**

Comes now the plaintiff in the above-entitled action, and, by leave of the Court first had and obtained, files these its amendments to the complaint of the plaintiff already on file in said cause, as follows, to wit:

## I.

Amend paragraph XVI of the Complaint so that the same shall read as follows:

“That the defendant, without any fault on the part of the plaintiff, failed during said final test under said contract of July 12, 1909, to bring the said apparatus to an established gas-making capacity as defined in said contract, of at least 2,000,000 cubic feet per twenty-four (24) hours, of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than *ten* (10%) moisture, provided for in said contract; that said apparatus did not during said final test obtain or reach an average capacity of two million (2,000,000) cubic feet of gas per twenty-four (24) hours for twenty (20) consecutive days, but during said test said apparatus produced an average of much less than two million (2,000,000) cubic feet of gas per twenty-four (24) hours, to wit, an average of not exceeding one million seven hundred and fifty [46] thousand (1,750,000) cubic feet of gas per twenty-four (24) hours; that said apparatus did not during said test produce gas upon an average consumption of thirty-five (35) pounds, or less, of lamp-black containing not more than ten (10%) per cent moisture, per thousand cubic feet of gas made, but said apparatus did during said test consume on the average thirty-nine and 58/100 (39.58) pounds of lamp-black containing less than ten (10%) per cent of moisture, per thousand cubic feet of gas made; that said apparatus did not during said test produce gas of a candle-power equal to that specified



in said contract of July 12, 1909, in that the average candle-power of the gas produced during said test did not exceed eighteen and 9/10 (18.9) candle-power; that said increased consumption of lamp-black by said apparatus during said test, over and above that provided in said contract, and the decreased gas-making capacity of said apparatus from that provided for in said contract, greatly increased the cost of production of gas by said apparatus, per thousand cubic feet of gas made, over and above what the cost would have been had defendant's apparatus performed according to the guarantees of said contract. That said apparatus is of no value to plaintiff, by reason of its failure to perform according to said contract.

WM. A. CHENEY,  
H. J. GOUDGE,  
LEROY M. EDWARDS,  
Attorneys for Plaintiff.

[Endorsed]: Original. No. 1558. In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation, Defendant. Amendments to Complaint. Received Copy of the Within Amendments this 25 day of July, 1910. Oscar A. Trippet, Attorney for Defendant. Filed Jul. 25, 1910. Wm. M. Van Dyke, Clerk. Chas. N. Williams, [47] Deputy. Wm. A. Cheney, Herbert J. Goudge, LeRoy M. Edwards, 645 So. Hill St., Los Angeles, Cal., Attorneys for Plaintiff. [48]



*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

**Demurrer to Complaint as Amended.**

The defendant files this, its amended demurrer, and for cause of demurrer alleges:

I.

That said complaint does not state facts sufficient to constitute a cause of action.

II.

That said complaint is uncertain in this:

The following allegation in paragraph numbered XVI of said complaint is uncertain, to wit:

“That the defendant without any fault on the part of the plaintiff, failed during said final test under said contract of July 12, 1909, to bring its said apparatus to an established gas making capacity as defined in said contract, of at least two million (2,000,000) cubic feet per 24 hours of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, provided for in said contract.”

It cannot be determined from said allegation what is meant by "established gas-making capacity as defined in said contract." There is nothing in the complaint to show what is the capacity as defined in said contract. That the allegation is a conclusion of law.

The following allegation in said complaint in paragraph numbered XVIII of said complaint, to wit:

"That said apparatus is now of no value, and [49] never has been of any value to plaintiff, by reason of its unfit and dilapidated condition and failure to attain an established capacity, as defined in said contract, of at least two million (2,000,000) cubic feet per 24 hours, of the kind of gas *specified in said contract*, with the same economy of lamp black fuel containing not more than ten (10%) per cent moisture, according to said contract of July 12, 1909, as hereinbefore set forth,"—

is uncertain, in that there is nothing to show what is meant by the capacity as defined in said contract, or the kind of gas specified in said contract. Said allegation is a conclusion of law.

The following allegation contained in paragraph numbered XIX of said complaint, is uncertain, to wit:

"That by reason of the failure of said apparatus to attain an established capacity, as defined in said contract, of two million (2,000,000) cubic feet per 24 hours, of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, according to the contract of July 12, 1909,"—

in that there is nothing in said complaint to make certain what is meant by the capacity defined in said contract or specified in said contract. Said allegation is a conclusion of law.

## III.

Said complaint is ambiguous in the same respects that the same is alleged to be uncertain, as aforesaid.

## IV.

That said complaint is unintelligible in the same respects that the same is alleged to be uncertain, as aforesaid.

OSCAR A. TRIPPET,  
Attorney for Defendant.

I HEREBY CERTIFY that in my opinion the foregoing demurrer is well founded in point of law.

OSCAR A. TRIPPET,  
Attorney for Defendant. [50]

[Endorsed]: (Original.) No. 1558. In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas & Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation, Defendant. Demurrer to Complaint as Amended. Received copy of within Demurrer this 4th day of Aug., 1910. Wm. A. Cheney, L. M. Edwards, Attys. for Pltff. Filed Aug. 4, 1910. Wm. M. Van Dyke, Clerk. Chas. N. Williams, Deputy. Oscar A. Trippet, Attorney at Law, 315 Coulter Building, 213 So. Broadway, Los Angeles, Cal. [51]

At a stated term, to wit, the July Term, A. D. 1910, of the Circuit Court of the United States of America, of the Ninth Judicial Circuit, in and for the Southern District of California, Southern Division, held at the courtroom in the City of Los Angeles, on Monday, the nineteenth day of September, in the year of our Lord one thousand nine hundred and ten. Present: The Honorable OLIN WELLBORN, District Judge.

**[Order Overruling Demurrer to Complaint as Amended.]**

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

This cause coming on this day to be heard on the demurrer of defendant to plaintiff's complaint as amended; LeRoy M. Edwards, Esq., and Herbert J. Goudge, Esq., appearing as counsel for plaintiff, and Oscar A. Trippet, Esq., appearing as counsel for defendant, and said demurrer having been argued in support thereof by Oscar A. Trippet, Esq., of counsel as aforesaid for defendant, and in opposition thereto by Herbert J. Goudge, Esq., of counsel as aforesaid for plaintiff, and in support thereof in reply by Oscar A. Trippet, Esq., of counsel as

aforesaid for defendant, and submitted to the Court for its consideration and decision, it is now by the Court ordered that said demurrer be, and the same hereby is overruled, and that defendant have ten (10) days in which to answer said complaint.

[Endorsed]: No. 1558. U. S. Circuit Court, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation, Defendant. Copy of Order Overruling Demurrer. Filed Nov. 6, 1911. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. [52]

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*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

**Answer to Complaint as Amended, and  
Cross-complaint.**

Comes now the defendant in the above-entitled action, and for answer to plaintiff's complaint herein alleges:



I.

The defendant has no information or belief upon the subject sufficient to enable it to answer the allegations contained in paragraph numbered V of the complaint, and on that ground the defendant denies each and every allegation contained in said paragraph numbered V of the complaint, and denies each and every allegation therein contained, on the further ground that the same is irrelevant and redundant.

II.

The defendant denies that the Los Angeles Gas and Electric Company, solely by reason of each or every one of the representations or guaranties contained in said written proposal set forth in the complaint, or relying thereupon, the said company entered into said contract set forth in the complaint, with the defendant.

III.

The defendant has no information or belief upon the subject sufficient to enable it to answer the allegations contained in paragraph numbered VII of the complaint, and on that [53] ground denies each and every of said allegations, and the defendant further denies said allegations contained in said paragraph numbered VII on the ground that they are irrelevant and redundant.

Defendant admits, however, that the Los Angeles Gas and Electric Company paid to the defendant the sum specified in said contract dated July 12, 1909, and set forth in said complaint.



The defendant denies that the Los Angeles Gas and Electric Company at all times fully or completely performed each or every or all conditions upon its part under said contract set out in paragraph numbered VI of said Complaint.

#### IV.

The defendant has no information or belief upon the subject sufficient to enable it to answer the allegations contained in paragraph numbered VIII of the complaint, and on that ground the defendant denies each and every allegation contained in said paragraph numbered VIII of said complaint, and the defendant denies the said allegations contained in paragraph VIII of said complaint, on the further ground that the same are irrelevant and redundant. And the defendant alleges that all controversy concerning the alleged facts set forth in paragraph numbered VIII of the complaint were fully settled, and all the controversies existing concerning said alleged facts were fully determined, closed and ended by reason of the contract set out in the complaint and dated July 12, 1909.

#### V.

The defendant denies that said apparatus was, during or at the completion of, said alleged test pleaded in paragraph numbered VIII of the complaint, of no value to the Los Angeles Gas and Electric Company, by reason of the failure of said apparatus to perform according to the terms and guaranties of said [54] contract pleaded in paragraph numbered VI of the complaint or its uncompleted condition as set forth in said complaint, or that said Los Angeles Gas &

Electric Company refused at all times to accept said apparatus, or never did accept the same, or that said apparatus is now, or has been, at all times, the sole property of the defendant or is now or always has been, subject to defendant's right to remove or dispose of the same.

## VI.

The defendant denies each and every of the allegations contained in paragraph numbered X of the complaint, on the ground that each and every of said allegations are irrelevant and redundant, and alleges that all the said allegations in said paragraph numbered X of the complaint were fully settled, adjusted and determined by the execution of the contract dated July 12, 1909, set out in the complaint.

And defendant denies that the Los Angeles Gas and Electric Company performed each, every or all conditions upon its part under said contract of July 12, 1909.

## VII.

As to the allegations in paragraph numbered XV of the complaint, as follows: "That on the 28th day of February, 1910, the defendant notified the plaintiff that it would commence the final twenty-day test of said apparatus on the morning of March 19, 1910," the defendant alleges that on the 25th day of February, 1910, the plaintiff notified the defendant in writing that the defendant must commence said test on the first day of March, 1910; and the defendant was not ready to start said test on March 1, 1910, as required by the said plaintiff, and the defendant negotiated with the plaintiff and induced the said

plaintiff to change the date of said demand until March 10, 1910. That by reason of said demand of the said plaintiff to commence said test on March first, 1910, the plaintiff committed a breach of said contract of date July 12, 1909. [55]

### VIII.

The defendant denies that the defendant, without any fault on the part of the plaintiff, or otherwise, failed during said final test under said contract of July 12 1909, to bring the said apparatus mentioned in said contract of July 12, 1909, to an established gas-making capacity as defined in said contract of at least two million cubic feet per twenty-four hours of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten per cent moisture, provided for in said contract. And denies that said apparatus did not during said alleged final test obtain or reach an average capacity of two million cubic feet of gas per twenty-four hours of twenty consecutive days, or that during said test said apparatus produced an average of much less than two million cubic feet of gas per twenty-four hours, to wit, an average not exceeding one million seven hundred and fifty thousand cubic feet of gas per twenty-four hours. And the defendant alleges, on the contrary, that said apparatus produced an average of more than two million cubic feet of gas per twenty-four hours for twenty consecutive days. The defendant denies that said apparatus did not during said test produce gas upon an average consumption of thirty-five pounds or less of lamp-black containing not more than ten per cent moisture

per thousand cubic feet of gas made, and defendant denies that said apparatus did, during said test, consume on an average thirty-nine and fifty-eight hundredths pounds of lamp-black containing less than ten per cent of moisture per thousand cubic feet of gas made, and denies that the same consumed more than thirty-five pounds of lamp-black containing not more than ten per cent moisture. The defendant denies that said apparatus did not, during said test, produce gas of a candle-power equal to that specified in said contract of July 12, 1909, and the defendant says [56] that prior to the beginning of the said test of said apparatus as set forth in said complaint, the plaintiff agreed with the defendant that it was not material that the defendant during said test should make gas of twenty or twenty-two candle-power, but if the defendant made gas with an average economy of oil so that 4.44 candles per thousand cubic feet of gas was produced for each gallon of oil used, that would satisfy the guaranty, and the plaintiff and defendant agreed that the said guaranty meant that the said apparatus should produce 4.44 candles per gallon of oil used per thousand cubic feet in manufacture, and use more than four and one-half gallons of California crude oil of seventeen degrees Baume per thousand cubic feet made, and in said test there was used only four and thirty-six hundredths gallons of California crude oil of seventeen degrees Baume per one thousand cubic feet made, and which produced an average candle-power of 19.05 without any correction for suspended water in the oil delivered to defendant during said test. That

said apparatus at all times produced 4.44 candle-power per thousand cubic feet of gas made for each gallon of oil used.

The defendant denies that any increased consumption of lamp-black by said apparatus during any test over and above that provided in said contract, or the decreased gas-making capacity of said apparatus over that provided for in said contract greatly or otherwise increased the cost of production of gas by said apparatus per thousand cubic feet of gas made over or above what the cost would have been had said apparatus performed according to the guaranties of said contract.

The defendant denies that said apparatus is of no value to plaintiff by reason of its failure to perform according to said contract or otherwise.

## IX.

The defendant denies that after the said alleged final [57] test set forth in the complaint, the defendant abandoned the said apparatus in a defective, unfinished, incomplete or dilapidated condition, as set forth in said complaint, or otherwise.

The defendant denies that the charging floor is loosely laid, or that the plates thereof being illy fitted made said floors uneven or unsightly in appearance, or unfit for the proper use of lamp-black fuel in said apparatus, or that the top of the generator is in a dilapidated condition, being insufficiently reinforced or leaky, allowing gas, tar or oil to escape; or that the charging floors are in a leaky condition where they are bolted to the top head of the generator; or that the 20" Crane gate valve installed by defendant



is installed in a temporary or imperfect manner, or is not sufficiently installed for a permanent or successful operation of the apparatus; or that a large part of the brick work in the carbureter is broken down or unfit for proper operation; or the cast iron connecting pipe between the carbureter and superheater is in a leaky condition, or patched in a temporary manner by means of cement, or that the checker brick in the superheater is in a crumbled or broken condition.

As to the allegation "that said apparatus has never been painted with metallic paint," the defendant says that the controversy concerning the painting of said apparatus was adjusted by the contract of date July 12, 1909. Defendant admits that said apparatus was not painted with metallic paint, but at the plaintiff's request, the defendant painted the said apparatus with special paint used for similar purposes by the plaintiff.

Defendant denies that by reason of the alleged dilapidated condition set forth in said complaint, said apparatus is in no condition to be further operated without first making [58] extensive repairs thereon or the expending of a large amount of money.

#### X.

The defendant denies that the plaintiff performed each, every or all conditions upon its part under said contracts set forth in the complaint.

The defendant denies that plaintiff has never accepted said apparatus, or that said apparatus is now, or has been since July 12, 1909, the property of the defendant, or is now, or always has been subject to

defendant's right to remove or dispose of the same, or that said apparatus is now of no value, or that it never has been of any value to plaintiff by reason of its unfit or dilapidated condition, or failure to attain an established capacity as defined in said contract of at least two million cubic feet per twenty-four hours of the kind of gas specified in said contract, or otherwise, with the same economy of lamp-black fuel containing not more than ten per cent moisture according to said contract of July 12, 1909, as set forth in said complaint.

### XI.

The defendant denies that by reason of the failure of said apparatus to attain an established capacity, as defined in said contract, of two million cubic feet per twenty-four hours of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten per cent moisture, according to the contract of July 12, 1909, the plaintiff did, on the 5th day of April, 1910, or on the 8th day of April, 1910, demand of the defendant that the defendant immediately return to the plaintiff the sum of \$26,823.45, and at once remove its said apparatus from plaintiff's premises at defendant's own cost and expense, as in said contract provided.

[59]

### XII.

The defendant has no information or belief upon the subject sufficient to enable it to answer the allegations contained in paragraph numbered XXI of the complaint, and on that ground it denies each and

every allegation of said paragraph numbered XXI of said complaint.

### XIII.

The defendant denies that by reason of the failure or refusal of the defendant to return to plaintiff said sum of \$26, 823.45, or to remove said apparatus from plaintiff's premises, as aforesaid, the plaintiff has been damaged in the sum of \$28323.45, or in any other sum, or at all. [60]

For a second and further defense, and by way of counterclaim to the plaintiff's complaint, the defendant alleges:

#### I.

That the plaintiff is now and ever since the 22d day of June, 1909, has been, a corporation organized and existing under and by virtue of the laws of the State of California, and it is now and has been at all times since said 22d day of June, 1909, a citizen of the State of California, and an inhabitant of the City of and County of Los Angeles, State of California, and its principal place of business is, and has been at all times since said 22d day of June, 1909, in said City of and County of Los Angeles, State of California, in the Southern Division of the Southern District of the Ninth Circuit of the United States, and plaintiff is now, and has been at all times since said 22d day of June, 1909, engaged in the business of generating, manufacturing, and supplying gas and electricity to said city and vicinity, and to the inhabitants thereof, as the successor in interest of the Los Angeles Gas and Electric Company.

#### II.

Los Angeles Gas and Electric Company is now, and

ever since the 29th day of March, 1904, has been, a corporation organized and existing under and by virtue of the laws of the State of California, and it is and was at all times herein mentioned a citizen of the State of California, and an inhabitant of the City of and the County of Los Angeles, State of California, and its principal place of business is and was at all said times in said City of and County of Los Angeles, State of California, in the Southern Division of the Southern District of the Ninth Circuit of the United States, and was actively engaged in the business of generating and supplying gas and electricity to [61] the City of Los Angeles and its inhabitants until the first day of August, 1909, at which time it ceased to operate any plants in the State of California.

### III.

That the defendant is now, and was at all times herein mentioned, a corporation duly organized and existing under and by virtue of the laws of the State of Indiana, and that it is a citizen of the State of Indiana, and an inhabitant of, and its principal place of business is at, Fort Wayne, in Allen County, in the State of Indiana and that defendant was at all times mentioned herein and is now, doing business in the County of Los Angeles, State of California.

### IV.

That at all times herein mentioned the defendant was, and still is, engaged in the business of manufacturing, selling and installing coal and water gas apparatus, including Extended Carburetter Superheater Water Gas Apparatus, to be used in gas plants

for the purpose of producing and generating commercial gas.

V.

That on the 8th day of April, 1907, the defendant entered into a contract with the Los Angeles Gas & Electric Company, a copy of which contract (with the exception of the specifications referred to therein), is hereto attached and hereof made a part and marked Exhibit "A." That the letter dated April 8, signed by Western Gas Construction Company hereto attached, is the letter referred to in said Exhibit "A," above the signature of both parties to said contract, and said letter is hereby made a part of said Exhibit "A."

That subsequently, on July 12, 1909, the defendant entered into a contract with the Los Angeles Gas & Electric Company, a copy of which is hereto attached, hereof made a part, and marked Exhibit "B." [62]

That the contract referred to in said Exhibit "B" between the said parties as bearing date of April 8, 1907, is the aforesaid contract hereto attached and marked Exhibit "A."

VI.

That on the 1st day of August, 1909, the Los Angeles Gas & Electric Company did, for a valuable consideration, duly transfer and assign unto the plaintiff herein all its properties and business, and did at said time, for a valuable consideration, duly sell, transfer and assign to the plaintiff herein, its successors in interest, all those rights, interests and liabilities under and by virtue of said contracts of April 8, 1907, and July 12, 1909, with the de-



fendant, which contracts are referred to as Exhibits "A" and "B," and the plaintiff did on said 1st day of August, 1909, for a valuable consideration accept said assignment, and assume all the obligations and liabilities under said contracts, and all liabilities of said Los Angeles Gas & Electric Company to the defendant, and agreed to perform said contracts according to their terms and conditions, and to pay defendant whatever said gas company owed to defendant. That the defendant was immediately notified of the aforesaid assignments of said contracts and said property, and the assumption of said liability by plaintiff, and defendant did, on the 6th day of August, 1909, consent in writing to the aforesaid assignments and assumption of liability aforesaid.

#### VII.

That in pursuance of said contract, Exhibit "A," the defendant, between the 8th day of April, 1907, and the first day of November, 1907, furnished and delivered to the Los Angeles Gas & Electric Company, mentioned in said contract, an Extended Carburetter Superheater Water Gas Apparatus with a charging floor for the same, and performed the work and labor [63] necessary to install the same, all of which was done at the special instance and request of said Los Angeles Gas & Electric Company.

#### VIII.

That thereafter, between the 12th day of July, 1909, and the 1st day of April, 1910, in pursuance of said contract Exhibit "B," the defendant made changes and additions in said Extended Carburetter

Superheater Water Gas Apparatus, and furnished and delivered said changes and additions to said plaintiff, and in making said changes between said dates, defendant expended a large sum of money, to wit, more than the sum of \$9,000. That said changes and additions were made at the special instance and request of said Los Angeles Gas & Electric Company, and at the special instance and request of the plaintiff herein.

That the reasonable value of said Extended Carburetter Superheater Water Gas Apparatus with charging floor for the same and labor necessarily performed to install the same, and the said changes and additions made thereto, were and are of the reasonable value of Thirty-five Thousand Six Hundred and Ninety-four (\$35,694) Dollars, which sum the said plaintiff assumed and agreed to pay, with the exception of what had been previously paid thereon by the said Los Angeles Gas & Electric Company.

#### IX.

That there has been paid upon said sum of \$35,694 the sum of \$26,823.45. That the balance \$8,870.55, with interest thereon, remains due and wholly unpaid. That the plaintiff refuses to pay said \$8,870.55 and said interest, to the defendant, although often requested, and the same, together with the interest thereon from April 1, 1910, is due and wholly unpaid. [64]

WHEREFORE, defendant prays judgment against the plaintiff for the sum of \$8,870.55, with interest thereon from April 1, 1910, at 7% per annum and costs of suit.

For a third and further defense, and by way of counterclaim to the plaintiff's complaint, the defendant alleges:

I.

The defendant refers to the second and further defense herein and makes paragraphs numbered I, II, III, IV, V, and VI, of said second and further defense a part of this defense by this reference.

II.

That prior to the beginning of the said test of said apparatus as hereinafter set forth, the plaintiff agreed with the defendant that it was not material that the defendant during said test should make gas of twenty or twenty-two candle-power, but if the defendant made gas with an average economy of oil so that four and forty-four hundredths (4.44) candles per thousand cubic feet of gas was produced for each gallon of oil used, that would satisfy the guarantee and the plaintiff and defendant agreed that the said guarantee meant that the said apparatus should produce four and forty-four hundredths (4.44) candles per gallon of oil used per thousand cubic feet in manufacture.

III.

That the defendant duly performed all the conditions on the defendant's part of said contract Exhibit "B" and said [65] apparatus or set duly performed the guaranties therein provided, in accordance with the agreements Exhibits "A" and "B" and stipulation set forth in paragraph numbered II hereof.

IV.

That after the changes were made as provided in paragraph numbered I in said contract Exhibit "B," and after entering into the agreement hereinbefore pleaded in paragraph numbered II of this answer, the defendant proceeded to make gas of the kind specified in said contract Exhibit "A," as modified or interpreted by said agreement pleaded in paragraph numbered II hereof, to wit, good commercial gas, well-fixed and non-condensable, and produced four and forty-four hundredths (4.44) candles per thousand cubic feet of gas manufactured per gallon of oil used with said set or apparatus.

That said apparatus was brought to an established capacity of at least 2,700,000 cubic feet of the said kind of gas, and that during the test, the gas was made with not more than thirty-two pounds of dried lamp-black, or thirty-five pounds of lamp-black containing not more than ten per cent moisture per thousand cubic feet of gas made, and using not more than four and a half ( $4\frac{1}{2}$ ) gallons of California crude oil of 17° Baume per thousand cubic feet, made, and in said test there was only four and thirty-six hundredths gallons of California crude oil of 17° Baume per thousand cubic feet made, and which produced an average candle-power of 19.05 without any correction for suspended water in the oil delivered to defendant during said test. That said apparatus at all times produced 4.44 candle-power per thousand cubic feet of gas made for each gallon of oil used.

## V.

That the plaintiff has not performed said contract Exhibit "B" required by said contract to be performed by said [66] plaintiff. That there is now due the defendant from the plaintiff the sum of \$8,210.95, with interest thereon from April 1, 1910, which sum with interest thereon is wholly unpaid.

WHEREFORE, the defendant demands judgment against the plaintiff for \$8,210.95, with interest from April 1, 1910.

For a fourth and further defense, and by way of counterclaim, to plaintiff's complaint, the defendant alleges:

## I.

The defendant refers to the second and further defense herein and makes paragraphs numbered I, II, III, IV, V, and VI of said second and further defense a part of this defense by this reference.

## II.

That prior to the beginning of the said test of said apparatus as hereinafter set forth, the plaintiff agreed with the defendant that it was not material that the defendant during said test should make gas of twenty or twenty-two candle-power, but if the defendant made gas with an average economy of oil so that four and forty-four hundredths (4.44) candles per thousand cubic feet of gas was produced for each gallon of oil used that would satisfy the guarantee and the plaintiff and defendant agreed that the said guarantee meant that the said apparatus should produce four and forty-four hundredths (4.44) candles per gallon of oil used per thousand



cubic feet in manufacture.

### III.

That the defendant duly performed all the conditions [67] on defendant's part of said contract, Exhibit "B," and said apparatus or set will perform the guaranties provided in said Exhibit "B" in accordance with the agreements Exhibits "A" and "B" and the stipulation set forth in paragraph numbered II hereof.

### IV.

That after the changes were made, as provided in paragraph numbered I in said contract, Exhibit "B," and after entering into the agreement hereinbefore pleaded in paragraph numbered II of this answer, the defendant proceeded to make gas of the kind specified in said contract Exhibit "A," as modified or interpreted by said agreement pleaded in paragraph numbered II hereof, to wit, good commercial gas, well-fixed and non-condensable, and produced four and forty-four hundredths (4.44) candles per thousand cubic feet of gas manufactured per gallon of oil used, with said set or apparatus.

That said apparatus was brought to an established capacity of at least 2,700,000 cubic feet of the said kind of gas, and that during the test, the gas was made with not more than thirty-two pounds of dried lamp-black, or thirty-five pounds of lamp-black containing not more than ten per cent moisture per thousand cubic feet of gas made, and using not more than four and one-half gallons of California crude oil of 17° Baume per thousand cubic feet made, and in said test there was used only four and thirty-six

hundredths gallons of California crude oil of 17° Baume per thousand cubic feet made, and which produced an average candle-power of 19.05 without any correction for suspended water in the oil delivered to defendant during said test. That said apparatus at all times produced 4.44 candle-power per thousand cubic feet of gas made for each gallon of oil used.

## V.

The plaintiff has not performed said contract, Exhibit [68] "B," required by said contract to be performed by said plaintiff in this, to wit:

(a) That the plaintiff, on February 25, 1910, served a notice upon the defendant requiring the defendant to proceed with the test, as provided in said contract, Exhibit "B," on March 1, 1910. That the said defendant, in order to prevent conflict with the plaintiff, consented to commence the test on March 10, 1910, although the defendant was not at said time, to wit, March 10, 1910, ready to commence said test, and plaintiff knew defendant was not so ready.

(b) That the defendant commenced, on March 10, 1910, at 6:00 o'clock A. M., to make said test, as provided in said contract, Exhibit "B." That the plaintiff, in pursuance of said contracts Exhibits "A" and "B," undertook to furnish fuel for the purpose of making said test, and did furnish to the defendant the fuel used in making said test, but that said plaintiff did not furnish to the defendant lamp-black containing not more than ten per cent (10%) moisture to make said test. The plaintiff, however,

furnished to the defendant a substance which the said plaintiff then and there represented was lamp-black containing not more than ten per cent (10%) moisture; that the defendant believed the representation of plaintiff that said substance was lamp-black containing not more than ten (10%) per cent moisture, and relied upon the said representations being true, and said defendant operated said apparatus and set from the 10th day of March, 1910, until the first day of April, 1910, with the exception of three days, as herein specified, and in all of said operations the said defendant used the substance so furnished to the defendant by the plaintiff, which the plaintiff then and there represented to the defendant was lamp-black containing not more than 10% moisture, and the defendant, as aforesaid, believed said representations, and did [69] not know until after said test that said substance was not lamp-black, as represented.

That the said substance so furnished by the plaintiff as lamp-black containing not more than 10% moisture was not lamp-black, but was a substance containing lamp-black and many other substances, to wit, other substances amounting to more than 18% thereof.

That the defendant did not discover until after April 1, 1910, that the fuel so furnished by plaintiff as and for lamp-black was not lamp-black as so represented, but was, as aforesaid, a substance containing lamp-black and other substances.

That the other substances contained in said fuel furnished to the defendant, as aforesaid, as lamp-

black, would not make gas, and were not fitted to make gas, but were detrimental and injurious to the machinery and process of making gas, and caused consumption of fuel to drive off and consume the substances other than lamp-black contained in said fuel.

Defendant alleges on information and belief that the plaintiff knew at the time it was furnishing said alleged fuel which the plaintiff denominated lamp-black, that said substance was not lamp-black, but was only partly lamp-black, and partly composed of other substances.

That by reason of the conduct of said plaintiff in furnishing said fuel as and for lamp-black, the said apparatus and set was prevented from making many millions of cubic feet of gas in addition to what it did during said test.

That the said apparatus and set was damaged and injured by reason of the attempt to consume said substance alleged to be lamp-black, as aforesaid.

(c) That the fuel furnished by the plaintiff as and for lamp-black was not furnished in a scientific shape, nor in the [70] usual way, nor according to the understanding between the defendant and the Los Angeles Gas & Electric Company and the plaintiff, nor according to good practice for handling such stuff, but the said fuel was compressed into bricks with a great deal of moisture, to wit, more than 20% in the same, and was thereafter dried until the moisture was evaporated, so that the same after said drying, contained less than 10 per cent of moisture. And defendant alleges that said fuel should

have been dried until it contained less than 10% of moisture, and then pressed into bricks. That by reason of the said fuel being compressed with more than 20% of moisture therein and then dried, the said fuel lost its strength, was easily broken and fell to pieces and crumbled in handling and was not held in the shape of bricks, and after the same was put into the fire, the same crumbled into dust, packing the fuel bed, seriously interfering with and preventing proper combustion.

That the alleged lamp-black bricks so furnished by the plaintiff for the purpose of making said test and running said apparatus and set, were first compressed and made into bricks, while in a moist state, and were afterwards dried in ovens or kilns, thereby making the exterior of said brick drier than the interior, and making the adhesive properties of said alleged lamp-black of less tensile strength than if the said alleged lamp-black had been dried and then compressed, and when said bricks so furnished by the plaintiff were used, the moisture on the interior of said brick caused the said brick to expand on the interior more rapidly than on the exterior, and caused said brick to burst into fragments and into powder, and into its original state, thus smothering out the fire; and said bricks would not hold their shape nor stand the fire necessary to produce combustion to make gas. That said bricks were defectively moulded, in that the moulds were not filled with the material prior to their being compressed.

[71]

That the conduct of said plaintiff in furnishing



said brick in such shape is contrary to practice and contrary to good workmanship, and it compelled the defendant to shut down the apparatus three days to permit cleaning out the carburetter from accumulated fine carbon and other matters, which had closed up the gas passages, and thus necessitated the removal of brick work and replacement of the same before gas-making could be continued.

(d) The defendant alleges that in the manufacture of gas and in the operation of apparatus such as was erected by the defendant for the plaintiff as herein set forth, it is the usual custom and usual practice of all manufacturers of gas to shut down said apparatus one day out of every seven, for the purpose of cleaning such apparatus. That the defendant understood at the time said test was commenced, that the usual and customary practice in operating such machines would be followed. That the plaintiff refused to allow the defendant, during said test, to shut down said machine, or to stop the same one day in each week for the purposes of cleaning said apparatus. That the necessity for cleaning said apparatus was increased by reason of the defective fuel furnished by the plaintiff as aforesaid. That the defendant has always insisted, and now insists, that the defendant is entitled to have one day in each week when said apparatus should not be run, for the purposes of cleaning the same, and never consented that the test of twenty days between March 10 and April 1 was a test in accordance with the contract between the parties, as the same should be interpreted according to the usual

custom and practice in this regard.

That defendant proceeded with the test under protest, and continually protested to the plaintiff that it was not ready to commence said test, nor to continue said test, and was entitled to shut down and stop the operation of said machine one day in [72] each week for the purposes of cleaning and cooling.

And defendant alleges that if defendant had been permitted to operate said machine in accordance with the contract, and according to the usual course, custom and practice in the operation of such apparatus, that the defendant would during said operating period, have produced more than three million cubic feet, and would have established the average capacity of said machine to be more than 2,700,000 cubic feet during said period; but that said machine was unable to maintain the capacity of 2,700,000 cubic feet which it reached the first twenty-four hours, because of the defective fuel, the rapid accumulation of dust from same, carried over into the fixing chambers, and which was combined with the deposits from the oil and thus clogged the gas passages in fixing chambers. That by reason of the facts aforesaid, there never has been any test of said apparatus.

#### VI.

That by reason of the fact that the said plaintiff did not perform the said contract as hereinbefore specified, the said defendant has been damaged in the sum of Ten Thousand (\$10,000) Dollars.

#### VII.

That the said plaintiff refused to allow the said defendant to make any test of said apparatus or set,

and to demonstrate its capacity with lamp-black containing not more than 10% of moisture, as provided in said contract.

That there is due to the defendant by reason of the defendant's performance of said contract Exhibit "B," the sum of Eight Thousand Two Hundred Ten and 95/100 (\$8,210.95) Dollars with interest from April 1, 1910.

That by reason of the damages aforesaid, and the amount [73] due for the performance of said contract, there is due the defendant from plaintiff the sum of Eighteen Thousand Two Hundred Ten and 95/100 (\$18,210.95) Dollars, all of which is wholly unpaid.

WHEREFORE, defendant prays judgment against the plaintiff for Eighteen Thousand Two Hundred and Ten and 95/100 (\$18,210.95) Dollars, and for all proper relief. [74]

That the defendant for a cross-complaint against the plaintiff and the Los Angeles Gas & Electric Company, and for a first cause of action, complains of said plaintiff and said Los Angeles Gas & Electric Company, and alleges:

I.

That the plaintiff is now, and ever since the 22d day of June, 1909, has been, a corporation organized and existing under and by virtue of the laws of the State of California, and it is now and has been at all times since said 22d day of June, 1909, a citizen of the State of California, and an inhabitant of the City of and County of Los Angeles, State of California, and its principal place of business is, and has been at all

times since said 22d day of June, 1909, in said City of and County of Los Angeles, State of California, in the Southern Division of the Southern District of the Ninth Circuit of the United States, and plaintiff is now, and has been at all times since said 22d day of June, 1909, engaged in the business of generating, manufacturing, and supplying gas and electricity to said city and vicinity, and to the inhabitants thereof, as the successor in interest of the Los Angeles Gas and Electric Company.

## II.

Los Angeles Gas and Electric Company is now, and ever since the 29th day of March, 1904, has been a corporation organized and existing under and by virtue of the laws of the State of California, and it is and was at all times hereinafter mentioned a citizen of the State of California, and an inhabitant of the City of and County of Los Angeles, State of California, and its principal place of business is and was at all said times in said City of and County of Los Angeles, State of California, in the Southern Division of the Southern District of the Ninth Circuit of the United States, and was actively engaged in the business [75] of generating and supplying gas and electricity to the city of Los Angeles and its inhabitants until the first day of August, 1909, at which time it ceased to operate any plants in the State of California.

## III.

That the defendant is now, and was at all times herein mentioned, a corporation duly organized and existing under and by virtue of the laws of the State

of Indiana, and that it is a citizen of the State of Indiana, and an inhabitant of, and its principal place of business is at, Fort Wayne, in Allen County, in the State of Indiana, and that defendant was at all times mentioned herein, and is now, doing business in the County of Los Angeles, State of California.

## IV.

That at all times herein mentioned the defendant was, and still is, engaged in the business of manufacturing, selling and installing coal and water gas apparatus, including Extended Carburetter Superheater Water Gas Apparatus, to be used in gas plants for the purpose of producing and generating commercial gas.

## V.

That on the 8th day of April, 1907, the defendant entered into a contract with the Los Angeles Gas & Electric Company, a copy of which contract (with the exception of the specifications referred to therein) is hereto attached and hereof made a part and marked Exhibit "A." That the letter dated April 8, signed by Western Gas Construction Company, hereto attached, is the letter referred to in said Exhibit "A," above the signature of both parties to said contract, and said letter is hereby made a part of said exhibit "A."

That subsequently, on July 12, 1909, the defendant entered into a contract with the Los Angeles Gas & Electric [76] Company, a copy of which is hereto attached, hereof made a part and marked exhibit "B."

That the contract referred to in exhibit "B" be-



tween the said parties as bearing date of April 8, 1907, is the aforesaid contract hereto attached and marked exhibit "A."

## VI.

That on the first day of August, 1909, the Los Angeles Gas & Electric Company did, for a valuable consideration, duly transfer and assign unto the plaintiff herein all its properties and business, and did at said time, for a valuable consideration, duly sell, transfer and assign to the plaintiff herein, its successors in interest, all those rights, interests and liabilities under and by virtue of said contracts of April 8, 1907, and July 12, 1909, with the defendant, which contracts are referred to as Exhibits "A" and "B," and the plaintiff did on said 1st day of August, 1909, for a valuable consideration, accept said assignment, and assume all the obligations and liabilities under said contracts, and all liabilities of said Los Angeles Gas & Electric Company to the defendant, and agreed to perform said contracts according to their terms and conditions, and to pay defendant whatever said Gas Company owed to defendant. That the defendant was immediately notified of the aforesaid assignment of said contracts and said property, and the assumption of said liability by plaintiff, and defendant did, on the 6th day of August, 1909, consent in writing to the aforesaid assignments and assumption of liability aforesaid.

## VII.

That in pursuance of said contract, Exhibit "A," the defendant, between the 8th day of April, 1907, and the first day of November, 1907, furnished and

delivered to the Los Angeles Gas & Electric Company mentioned in said contract, [77] an Extended Carburetter Superheater Water Gas Apparatus with a charging floor for the same, and performed the work and labor necessary to install the same, all of which was done at the special instance and request of said Los Angeles Gas & Electric Company.

#### VIII.

That thereafter, between the 12th day of July, 1909, and the 1st day of April, 1910, in pursuance of said contract Exhibit "B," the defendant made changes and additions in said Extended Carburetter Superheater Water Gas Apparatus, and furnished and delivered said changes and additions to said plaintiff, and in making said changes between said dates, defendant expended a large sum of money, to wit, more than the sum of \$9,000. That said changes and additions were made at the special instance and request of said Los Angeles Gas & Electric Company, and at the special instance and request of the plaintiff herein.

That the reasonable value of said Extended Carburetter Superheater Water Gas Apparatus with charging floor for the same and labor necessarily performed to install the same, and the said changes and additions made thereto, were and are of the reasonable value of Thirty-five Thousand Six Hundred and Ninety-four (\$35,694) Dollars, which sum the said plaintiff and said Los Angeles Gas & Electric Company severally assumed and agreed to pay, with the exception of what had been previously paid thereon by the said Los Angeles Gas & Electric Company.

IX.

That there has been paid upon said sum of \$35,694 the sum of \$26,823.45. That the balance \$8,870.55, with interest thereon, remains due and wholly unpaid. That the plaintiff and said Los Angeles Gas & Electric Company refuse to pay said \$8,870.55 and said interest, to the defendant, although often requested, and [78] the same, together with the interest thereon, from April 1, 1910, is due and wholly unpaid.

WHEREFORE, defendant prays judgment against the plaintiff and Los Angeles Gas & Electric Company for the sum of \$8,870.55, with interest thereon from April 1, 1910, at seven (7%) per cent per annum, and costs of suit.

For a second and further cause of action and by way of cross-complaint against the plaintiff and the Los Angeles Gas & Electric Company, the defendant alleges:

I.

The defendant refers to the first cause of action and cross-complaint herein and makes paragraphs numbered I, II, III, IV, V and VI of said first cause of action and cross-complaint a part of this cause of action and cross-complaint by this reference.

II.

That prior to the beginning of the said test of said apparatus as hereinafter set forth, the plaintiff and said Los Angeles Gas & Electric Company agreed with the defendant that it was not material that the defendant during said test should make gas of twenty or twenty-two candle power, but if the defendant made gas with an average economy of oil so that four

and forty-four hundredths (4.44) candles per thousand cubic feet of gas was produced for each gallon of oil used, that would satisfy the guarantee and the plaintiff and Los Angeles Gas & Electric Company, and defendant agreed that the said guarantee meant that the said apparatus should produce four and forty-four hundredths (4.44) candles per gallon of oil used per thousand cubic feet in manufacture. [79]

### III.

That the defendant duly performed all the conditions on the defendant's part of said contract Exhibit "B," and said apparatus or set duly performed the guarantees therein provided, in accordance with the agreements Exhibits "A" and "B" and stipulation set forth in paragraph numbered II hereof.

### IV.

That after the changes were made as provided in paragraph numbered I in said contract Exhibit "B," and after entering into the agreement hereinbefore pleaded in paragraph numbered II of this cross-complaint, the defendant proceeded to make gas of the kind specified in said contract Exhibit "A" as modified or interpreted by said agreement pleaded in paragraph numbered II hereof, to wit, good commercial gas, well-fixed and non-condensable, and produced four and forty-four hundredths (4.44) candles per thousand cubic feet of gas manufactured per gallon of oil used with said set of apparatus.

That said apparatus was brought to an established capacity of at least 2,700,000 cubic feet of the said kind of gas, and that during the test, the gas was made with not more than thirty-two pounds of

dried lamp-black, or thirty-five pounds of lamp-black containing not more than ten per cent moisture per thousand cubic feet of gas made, and using not more than four and a half ( $4\frac{1}{2}$ ) gallons of California crude oil of  $17^{\circ}$  Baume per thousand cubic feet made, and in said test there was used only four and thirty-six hundredths gallons of California crude oil of  $17^{\circ}$  Baume per thousand cubic feet made, and which produced an average candle-power of 19.05 without any correction for suspended water in the oil delivered to defendant during said test. That said apparatus at all times produced 4.44 candle-power per thousand cubic feet of gas made for each gallon of oil used.

V.

That the plaintiff has not, nor has said Los Angeles [80] Gas & Electric Company performed said contract Exhibit "B" required by said contract to be performed by said plaintiff and said Los Angeles Gas & Electric Company. That there is now due the defendant from the plaintiff and said Los Angeles Gas & Electric Company the sum of \$8,210.-95, with interest thereon from April 1, 1910, which sum, with interest thereon, is wholly unpaid.

WHEREFORE, the defendant demands judgment against the plaintiff and said Los Angeles Gas & Electric Company for \$8,210.95, with interest from April 1, 1910.

For a third cause of action and by way of cross-complaint against plaintiff and the Los Angeles Gas & Electric Company, the defendant alleges:

I.

The defendant refers to the first cause of action and



cross-complaint herein and makes paragraphs numbered I, II, III, IV, V, and VI of said first cause of action and cross-complaint a part of this cause of action and cross-complaint by this reference.

## II.

That prior to the beginning of the said test of said apparatus as hereinafter set forth, the plaintiff and said Los Angeles Gas & Electric Company agreed with the defendant that it was not material that the defendant during said test should make gas of twenty or twenty-two candle-power, but if the defendant made gas with an average economy of oil so that four and forty-four hundredths (4.44) candles per thousand cubic feet of gas was produced for each gallon of oil used, that would satisfy the guarantee, and the plaintiff and the Los Angeles Gas & Electric Company and the defendant agreed that the said guarantee meant that the said apparatus should produce four and forty-four hundredths [81] (4.44) candles per gallon of oil used per thousand cubic feet in manufacture.

## III.

That the defendant duly performed all the conditions on defendant's part of said contract, Exhibit "B," and said apparatus or set will perform the guaranties provided in said Exhibit "B" in accordance with the agreements Exhibits "A" and "B" and the stipulation set forth in paragraph numbered II hereof.

## IV.

That after the changes were made, as provided in

paragraph numbered I in said contract, Exhibit "B," and after entering into the agreement hereinbefore pleaded in paragraph numbered II of this cross-complaint, the defendant proceeded to make gas of the kind specified in said contract Exhibit "A" as modified or interpreted by said agreement pleaded in paragraph numbered II hereof, to wit, good commercial gas, well-fixed and non-condensable, and produced four and forty-four hundredths (4.44) candles per thousand cubic feet of gas manufactured per gallon of oil used, with said set or apparatus.

That said apparatus was brought to an established capacity of at least 2,700,000 cubic feet of the said kind of gas, and that during the test, the gas was made with not with than thirty-two pounds of dried lamp-black, or thirty-five pounds of lamp-black containing not more than ten per cent moisture per thousand cubic feet of gas made, and using not more than four and one-half gallons of California crude oil of 17° Baume per thousand cubic feet made, and in said test there was used only four and thirty-six hundredths gallons of California crude oil of 17° Baume per thousand cubic feet made, and which produced an average candle-power of 19.05 without any correction for suspended water in the oil delivered to defendant during said test. That said apparatus at all times produced 4.44 [82] candle-power per thousand cubic feet of gas made for each gallon of oil used.

#### V.

The plaintiff has not, nor has said Los Angeles Gas & Electric Company, performed said contract Exhibit

"B," required by said contract to be performed by said plaintiff, in this, to wit:

(a) That the plaintiff, on February 25, 1910, served a notice upon the defendant requiring the defendant to proceed with the test, as provided in said contract, Exhibit "B" on March 1, 1910. That the said defendant, in order to prevent conflict with the plaintiff, consented to commence the test on March 10, 1910, although the defendant was not at said time, to wit, March 10, 1910, ready to commence said test, and plaintiff knew defendant was not so ready.

(b) That the defendant commenced, on March 10, 1910, at 6:00 o'clock A. M. to make said test, as provided in said contract Exhibit "B." That the plaintiff, in pursuance of said contract Exhibits "A" and "B," undertook to furnish fuel for the purpose of making said test, and did furnish to the defendant the fuel used in making said test, but that said plaintiff did not furnish to the defendant lamp-black containing not more than ten per cent (10%) moisture to make said test. The plaintiff, however, furnished to the defendant a substance which the said plaintiff then and there represented was lamp-black containing not more than ten per cent (10%) moisture; that the defendant believed the representation of plaintiff that said substance was lamp-black containing not more than ten (10%) per cent moisture, and relied upon the said representations being true, and said defendant operated said apparatus and set from the 10th day of March, 1910, until the first day of April, 1910, with the exception of three days, as herein specified, [83] and in all of said operations the

said defendant used the substance so furnished to the defendant by the plaintiff, which the plaintiff then and there represented to the defendant was lamp-black containing not more than 10% moisture, and the defendant, as aforesaid, believed said representations, and did not know until after said test that said substance was not lamp-black, as represented.

That the said substance so furnished by the plaintiff as lamp-black containing not more than 10% moisture was not lamp-black, but was a substance containing lamp-black and many other substances, to wit, other substances amounting to more than 18% thereof.

That the defendant did not discover until after April 1, 1910, that the fuel so furnished by plaintiff as and for lamp-black was not lamp-black as so represented, but was, as aforesaid, a substance containing lamp-black and other substances.

That the other substances contained in said fuel furnished to the defendant, as aforesaid, as lamp-black, would not make gas, and were not fitted to make gas, but were detrimental and injurious to the machinery and process of making gas, and caused consumption of fuel to drive off and consume the substances other than lamp-black contained in said fuel.

Defendant alleges on information and belief that the plaintiff knew at the time it was furnishing said alleged fuel which the plaintiff denominated lamp-black, that said substance was not lamp-black, but was only partly lamp-black, and partly composed of other substances.

That by reason of the conduct of said plaintiff in furnishing said fuel as and for lamp-black, the said apparatus and set was prevented from making many thousands of cubic feet of gas in addition to what it did during said test. [84]

That the said apparatus and set was damaged and injured by reason of the attempt to consume said substance alleged to be lamp-black, as aforesaid

(c) That the fuel furnished by the plaintiff as and for lamp-black, was not furnished in a scientific shape, nor in the usual way, nor according to the understanding between the defendant and the Los Angeles Gas & Electric Company and the plaintiff, nor according to good practice for handling such stuff, but the said fuel was compressed into bricks with a great deal of moisture, to wit, more than 20% in the same, and was thereafter dried until the moisture was evaporated, so that the same after said drying, contained less than 10% of moisture. And defendant alleges that said fuel should have been dried until it contained less than 10% of moisture, and then pressed into bricks. That by reason of the said fuel being compressed with more than 20% of moisture therein and then dried, the said fuel lost its strength, was easily broken and fell to pieces and crumbled in handling and was not held in the shape of bricks, and after the same was put into the fire, the same crumbled into dust, packing the fuel bed, seriously interfering with and preventing proper combustion.

That the alleged lamp-black bricks so furnished by the plaintiff for the purpose of making said test



and running said apparatus and set were first compressed and made into bricks, while in a moist state, and were afterwards dried in ovens or kilns, thereby making the exterior of said brick drier than the interior, and making the adhesive properties of said alleged lamp-black of less tensile strength than if the said alleged lamp-black had been dried and then compressed, and when said bricks so furnished by the plaintiff were used, the moisture on the interior of said brick caused the said brick to expand on the interior more rapidly than on the exterior, and caused said brick [85] to burst into fragments and into powder, and into its original state, thus smothering out the fire; and said bricks would not hold their shape nor stand the fire necessary to produce combustion to make gas. That said bricks were defectively moulded, in that the moulds were not filled with the material prior to their being compressed.

That the conduct of said plaintiff in furnishing said brick in such shape is contrary to practice and contrary to good workmanship, and it compelled the defendant to shut down the apparatus three days to permit cleaning out the carbureter from accumulated fine carbon and other matters, which had closed up the gas passages, and thus necessitated the removal of brick work and replacement of the same before gas making could be continued.

(d) The defendant alleges that in the manufacture of gas and in the operation of apparatus such as was erected by the defendant for the plaintiff as herein set forth, it is the usual custom and usual practice of all manufacturers of gas to shut down said

apparatus one day out of every seven, for the purpose of cleaning such apparatus and cooling the same. That the defendant understood at the time said test was commenced, that the usual and customary practice in operating such machines would be followed. That the plaintiff refused to allow the defendant, during said test, to shut down said machine, or to stop the same one day in each week for the purposes of cleaning the said apparatus and cooling the same. That the necessity for cleaning said apparatus was increased by reason of the defective fuel furnished by the plaintiff as aforesaid. That the defendant has always insisted, and now insists, that the defendant is entitled to have one day in each week when said apparatus should not be run, for the purposes of cleaning the same, and never consented that the test of twenty days between March 10 and April 1 was a test in accordance with the contract between the parties [86] as the same should be interpreted according to the usual custom and practice in this regard.

That defendant proceeded with the test under protest, and continually protested to the plaintiff that it was not ready to commence said test, nor to continue said test, and was entitled to shut down and stop the operation of said machine one day in each week for the purposes of cleaning and cooling.

And defendant alleges that if defendant had been permitted to operate said machine in accordance with the contract and according to the usual course, custom and practice in the operation of such apparatus, that the defendant would during said operating

period, have produced more than three million cubic feet, and would have established the average capacity of said machine to be more than 2,700,000 cubic feet during said period; but that said machine was unable to maintain the capacity of 2,700,000 cubic feet which it reached the first twenty-four hours because of the defective fuel, the rapid accumulation of dust from same, carried over into the fixing chambers, and which was combined with the deposits from the oil and thus closed the gas passages in fixing chambers. That by reason of the facts aforesaid, there never has been any test of said apparatus. Defendant alleges on information and belief that plaintiff did all said things in this paragraph hereof alleged to have been done by plaintiff, at the instance and with the consent of the Los Angeles Gas and Electric Company.

VI.

That by reason of the fact that the said plaintiff and the Los Angeles Gas & Electric Company did not perform the said contract as hereinbefore specified, the said defendant has been damaged in the sum of Ten Thousand (\$10,000) Dollars.

VII.

That the said plaintiff and said Los Angeles Gas & [87] Electric Company refused to allow the said defendant to make any test of said apparatus or set, and to demonstrate its capacity with lamp-black containing not more than 10% of moisture, as provided in said contract.

That there is due to the defendant by reason of the defendant's performance of said contract Exhibit "B," the sum of Eight Thousand Two Hundred Ten

and 95/100 (\$8,210.95) Dollars with interest from April 1, 1910.

That by reason of the damages aforesaid, and the amount due for the performance of said contract, there is due the defendant from plaintiff and said Los Angeles Gas & Electric Company the sum of Eighteen Thousand Two Hundred Ten and 95/100 (\$18,210.95) Dollars, all of which is wholly unpaid.

WHEREFORE, defendant prays judgment against plaintiff and the Los Angeles Gas & Electric Company for Eighteen Thousand Two Hundred Ten and 95/100 (\$18,210.95) Dollars, and for all proper relief.

OSCAR A. TRIPPET,

Attorney for Defendant. [88]

**Exhibit "A" [to Answer and Cross-complaint].**

**THE WESTERN CONSTRUCTION COMPANY.**

Main Office

and Works—Fort Wayne, Indiana.

This agreement made the Eighth day of April in the year one thousand nine hundred and seven by and between The Western Gas Construction Company of Fort Wayne, Indiana, a corporation duly organized under the laws of the State of Indiana, party of the first part (hereinafter designated as the "Contractor") and Los Angeles Gas & Electric Company, Los Angeles, Cal., party of the second part (hereinafter designated the "Owner");

WITNESSETH: That the Contractor, in consideration of the covenants and agreements contained herein on the part of the Owner, does covenant, promise and agree with the said Owner, in manner

following, that is to say:

1. Any part or portion of the specifications which are struck out are not included in this Agreement.

2. The Contractor shall and will well and sufficiently furnish, ERECT and finish, to the reasonable satisfaction of the Owner, subject to strikes, fires, freight blockades, all the GAS APPARATUS AND MACHINERY described and specified in its Specification No. 1389 comprising pages one to eleven inclusive, dated February 5th, 1907, the original being herewith delivered to and receipt thereof acknowledged by the Owner, and whereof an impression or duplicate copy is retained by the Contractor, generally comprising the following apparatus:

One 13'-0" x 12'-6" x 12'-0" Extended Carburter Superheated Water Gas Apparatus with charging floor for same.

3. The apparatus shall be accepted upon completion in accordance with the specification.

4. The Owner will receive and properly store at the expense of the Contractor all materials which may arrive before the erectors of the Contractor, will hold Contractor harmless for damage to materials by fires or other causes, and afford all [89] necessary protection from depredation of any sort until acceptance of the apparatus, will use proper precaution to prevent the access of unauthorized persons to the premises where said work is being done.

5. The Owner shall furnish and provide the buildings, inclusive of the foundations, all yards and other excavations, fillings and refillings, pavings, floors, openings in walls and roofs, flashings for stacks, etc.,



all necessary steam, oil, water and drain connections at respectively convenient points for the several apparatus, all connections and parts of the gas plant not specified in the before mentioned specifications, in all respects suitable and sufficient, also openings or doors in the several rooms of suitable size to allow the apparatus of the Contractor to pass.

6. The Owner shall have the buildings in proper condition for the erection of the Apparatus on its arrival otherwise pay Contractor for expenses necessarily incurred through such delay. Nor during erection delay the progress of the work, otherwise pay for time men are idle, and travelling expenses, (if necessary to leave work and return after to continue or complete same,) including any other expenses necessarily incurred through such delay.

7. It is hereby mutually agreed between the parties hereto that the sum to be paid by the Owner to the Contractor for the [90] proper execution of the provisions of this agreement shall be Thirty Five Thousand Six Hundred and Ninety-four Dollars (\$35,694.00) lawful money of the United States, payable at par in Fort Wayne, Indiana, as follow:

Fifty per cent of the contract price in proportion as material is shipped or delivered to the premises of the Owner; twenty-five per cent of the contract price in such sums as may be called for from time to time during the progress of the work (said amount to include all payments for account of freights, advances to erectors and other sundry charges prior to the completion of the Apparatus) and the balance of the contract price thirty-five days after acceptance of apparatus as herein provided.

8. There are no understandings, promises or agreements on the part of the Owner or Contractor outside of this contract and specifications noted above, together with terms, conditions, and limitations therein contained, excepting Letter of Contractor to owner dated April 8th, to be and is hereby made a part of this contract.

IN WITNESS WHEREOF, The said parties for themselves, their heirs, executors, or assigns, have signed this AGREEMENT IN DUPLICATE, by their agents thereunto duly authorized, as of the day and year first above written.

THE WESTERN GAS CONSTRUCTION  
COMPANY,

By B. S. PEDERSON.

LOS ANGELES GAS & ELECTRIC COM-  
PANY,

By T. P. McCREA,  
Purchasing Agent.

Witnesses for the

Contractor, JO. K. TEETER;

Owner, C. A. LUCKENBACH.

Apr. 10, 1907. [91]

April 8, 1907.

Los Angeles Gas & Electric Company,

Los Angeles, Cal.

Gentlemen:—

Referring to our proposal of gas apparatus and machinery in accordance with our specifications No. 1389, dated February 5th, 1907, specifying generally one 13'-0" x 12'-6" x 12'-0" Extended Carburetter Superheated Water Gas Apparatus, we

beg to state that this apparatus is designed to have a capacity of from two million eight hundred thousand to three million two hundred thousand cubic feet per day of twenty-four hours with the use of good anthracite coal or gas house coke. With the use of lamp-black we guarantee that the apparatus will have a capacity of two million seven hundred and fifty thousand to three million cubic feet per day of twenty-four hours, using dry lamp-black.

We guarantee to make good commercial gas, well fixed and non-condensable, of from twenty to twenty-two candle power at the above rate per day, using not more than thirty-two pounds of dried lamp-black, or thirty-five pounds of lamp-black containing not more than 10% moisture, per thousand cubic feet of gas made.

We further guarantee that in the making of the above gas not more than four and one-half gallons of California Crude Oil of seventeen degrees Baume, or over will be used per thousand cubic feet made.

We further agree we will have the apparatus installed and in working order within five months from the date of this contract. In making the above agreement the Gas Company will be expected to aid our operators in fulfilling guarantee in so far as he may require modification of blast, dry steam, etc. This part of the machinery not being installed by us and consequently not under the direct supervision of our operator. [92]

The apparatus specified we agree to furnish and we guarantee to secure the above stated results for

the sum as stated in our letter of February 5th, \$32,-729.00, with an additional price for floor of \$2,965.00 extra. You are to unload and place the machinery in your yard at convenient point for our erector to get at same. If you desire us to do the unloading from your switch, we will do so for the additional price of \$250.00.

We are enclosing regular contract, covering the above work, in duplicate, one copy of which you will kindly sign and return to us, retaining the other for your own use.

Thanking you for your courtesy and assuring you that we will give you a first class apparatus in every respect, we are.

Yours truly,

THE WESTERN GAS CONSTRUCTION CO.

Per B. S. PEDERSON.

BSP/JKT. [93]

**Exhibit "B" [to Answer and Cross-complaint].**

THIS AGREEMENT, made and entered into this 12th day of July, 1909, by and between The Western Gas Construction Company, a corporation of Fort Wayne, Indiana, party of the first part, and the Los Angeles Gas and Electric Company, a corporation of Los Angeles, California, party of the second part,

WITNESSETH, Whereas the parties hereto did on the 8th day of April, 1907, enter into a contract by which the party of the first part herein, agreed to furnish and install at the plant of the party of the second part an Extended Carburetter Superheater Water Gas Apparatus, and

WHEREAS, the said party of the first part did furnish and install at the plant of the party of the second part, an Extended Carbureter Superheater Water Gas Apparatus, and the party of the second part did pay the party of the first part a portion of the contract purchase price therefor, to wit, Twenty-six Thousand Eight Hundred Twenty-three and 45/100 (\$26,823.45) Dollars, and

WHEREAS litigation has arisen between the said parties hereto concerning the question as to whether or not the said Extended Carbureter Superheater Water Gas Apparatus furnished and installed by the party of the first part, as aforesaid, was in accordance with said contract, and whether or not the said apparatus so furnished and installed, could produce the amount of gas guaranteed in said contract and

WHEREAS, the parties hereto now desire to finally dispose of and settle the controversy which has arisen between them concerning said Apparatus,

**NOW THEREFORE BE IT AGREED:**

1. That the party of the first part will at once proceed, and with as much expedition as possible make such changes in said apparatus as it may desire for a preliminary experiment with said apparatus for the determination of the character of changes or alterations it may desire to make preparatory to a final test of said Apparatus; that the said party of the first part will [94] immediately after said preliminary experiment, and with as much expedition as possible, make such changes in said apparatus as it may desire for the final test, which changes shall in part consist of—



1st. A new generator or generators, in place of the present generator now a part of said set.

2nd. Provide ample means for the collection and easy removal of dust and fine carbon carried from the generator to the carburetter.

3rd. Provide ample and satisfactory means for scrubbing and condensing of gas made.

and that after said changes are made said party of the first part shall at once proceed to make gas with said set, of the kind specified in said contract, with the same economy of fuel and oil mentioned in said contract.

2. It is agreed that if in said test said party of the first part shall bring said apparatus to a gas making capacity of two million (2,000,000) cubic feet per twenty-four (24) hours, of the kind of gas mentioned in said contract, with the same economy of lamp-black fuel, containing not more than ten (10%) per cent moisture, and oil mentioned in said contract, then the party of the first part will accept as full payment for said apparatus Twenty-six Thousand (\$26,000.00) Dollars, and in making this payment, Twenty-six Thousand (\$26,000.00) Dollars of the sum of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 (\$26,823.45) Dollars already paid by the party of the second part to party of the first part, shall be deemed as the payment hereunder, the balance of said sum, to wit, Eight Hundred Twenty-three and 45/100 (\$823.45) Dollars to be returned by said first party to party of the second part. [95]

If the party of the first part shall, in said test, bring said apparatus to the capacity of two million

seven hundred and fifty thousand (2,750,000) cubic feet per twenty-four (24) hours of the kind of gas specified in said contract, with the same economy of lamp-black fuel, containing not more than ten (10%) per cent moisture, and oil mentioned in said contract, then the party of the first part will accept as full payment for said Apparatus the original contract price, to wit, Thirty-five thousand Six Hundred Ninety-Four (\$35,694.00) Dollars, the payment of Twenty-Six Thousand Eight Hundred Twenty-three and 45/100 (\$26,823.45) Dollars already made by party of the second part to be applied on the payment aforesaid.

And it is agreed, that if said party of the second part shall during said test, bring said apparatus to a gas making capacity between two million (2,000,000) cubic feet per twenty-four (24) hours and two million seven hundred and fifty thousand (2,750,000) cubic feet per twenty-four (24) hours, of the kind of gas mentioned in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture and oil mentioned in said contract, said party of the second part will pay for said apparatus for each fifty thousand (50,000) cubic feet of gas per twenty-four (24) hours capacity over and above two million (2,000,000) cubic feet per twenty-four (24) hours, a sum proportionate between the said sum of Twenty-six Thousand (\$26,000) Dollars herein agreed to be paid for said two million (2,000,000) cubic feet capacity per twenty-four (24) hours, and the sum of Thirty-five Thousand Six Hundred and Ninety-four (\$35,694.00) Dollars, for said

two million seven hundred and fifty thousand (2,750,000) cubic feet capacity per twenty-four (24) hours, and in making any of the aforesaid payments, the amount of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 (26,823.45) Dollars already paid by the party of the second part shall be applied on the payment thereunder. [96]

And it is agreed that the capacity of said Apparatus shall be determined solely as follows: The party of the first part shall notify the party of the second part when it is ready for the final test of said Apparatus, and the average capacity per twenty-four (24) hours of said set during said test, which shall not be less than twenty (20) consecutive days, shall constitute the capacity of said apparatus for all the purposes hereunder.

3. And the party of the first part agrees that if said party of the first part cannot, during said test, bring said apparatus to an established capacity as herein defined, of at least two million (2,000,000) cubic feet per twenty-four hours (24) of the kind of gas specified in said contract, with the same economy of oil and lamp-black fuel containing not more than ten (10%) per cent moisture, mentioned in said contract, said party of the first part will remove at once without any cost to the party of the second part, said apparatus from the premises of the party of the second part, and repay to said party of the second part all money heretofore paid or advanced by said party of the second part to said party of the first part under said contract, to wit, Twenty Six Thousand Eight Hun-

dred Twenty-three and 45/100 (\$26,823.45) Dollars.

IN WITNESS WHEREOF, the parties have hereunto affixed their hands and seals by their agents duly authorized.

THE WESTERN GAS CONSTRUCTION  
COMPANY.

By B. S. PEDERSON,  
Agent.

LOS ANGELES GAS AND ELECTRIC  
COMPANY.

By T. P. McCREA,  
Purchasing Agent. [97]

State of Indiana,  
County of Allen,—ss.

Charles McCulloch, being by me first duly sworn, deposes and says: That the defendant Western Gas Construction Company is a corporation duly organized under the laws of the State of Indiana; that he is the Secretary of said corporation; that he has read the foregoing answer and cross-complaint and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters which are therein stated upon his information or belief, and as to those matters, that he believes it to be true.

CHARLES McCULLOCH,  
Secretary of the Western Gas Construction Co.

Subscribed and sworn to before me this 31st day of Aug., 1910.

[Seal] W. H. SHAMBAUGH,  
Notary Public in and for the County of Allen, State of Indiana.

Com. Ex. 3/23/1913.

[Endorsed]: (Original.) No. 1558. In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation, Defendant. Answer to Complaint as Amended and Cross-complaint. Filed Sep. 29, 1910. Wm. M. Van Dyke, Clerk. Chas. N. Williams, Deputy. Oscar A. Trippet, Attorney at Law, 315 Coulter Building, 213 So. Broadway, Los Angeles, Cal. [98]

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*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

**Answer to Cross-complaint.**

Plaintiff answering the defendant's cross-complaint and first cause of action against the plaintiff, says:

I.

Plaintiff denies that the defendant, in pursuance of said contract Exhibit "A," between the 8th day of April, 1907, and the 1st day of November, 1907, or at any other time or at all, furnished or delivered



to the plaintiff or to the Los Angeles Gas and Electric Company an Extended Carburetter Superheater Water Gas Apparatus with charging floor for same, or any apparatus or material at all, at the special, or other, instance or request of the Los Angeles Gas and Electric Company or the plaintiff, or at all, or performed the, or any work or labor necessary to install the same at the special instance or request of the said Los Angeles Gas and Electric Company or the plaintiff, or furnished or delivered any machinery or apparatus or performed any work or labor whatsoever at the special instance or request, or for the benefit of the plaintiff or the Los Angeles Gas and Electric Company, or either of them. [99]

## II.

Plaintiff admits that between the 12th day of July, 1909, and the 1st day of April, 1910, the defendant made certain changes and alterations in its Extended Carburetter Superheater Water Gas Apparatus installed at the plaintiff's plant; plaintiff denies, however, that said changes or additions, or any changes or additions to said, or any apparatus were furnished or delivered to the plaintiff; plaintiff denies that said changes or additions were made at the special, or any instance or request of the Los Angeles Gas and Electric Company or of the plaintiff, or either of them, but alleges that such changes and additions were made by the defendant for its own benefit and according to the terms of said contract Exhibit "B," and that said changes and additions were made for the benefit and use of the defendant in operating its said apparatus; plaintiff has not

sufficient knowledge, information or belief to enable it to answer the allegation that the defendant expended \$9,000.00, or any sum at all, in making said changes, and basing its denial upon said ground denies said allegation and each and every part thereof, both generally and specifically.

Plaintiff denies that the reasonable value, or the value at all of said Extended Carburetter Superheater Water Gas Apparatus with the charging floor for the same, and labor necessarily performed to install the same, and said changes and additions made thereto, or any of them, were or are of the reasonable value, or value at all of \$35,694.00, or of any sum at all, or that the plaintiff or the Los Angeles Gas and Electric Company, severally or at all, assumed or agreed to pay said sum of \$35,694.00, or any part thereof, or any money at all to the defendant. [100]

### III.

Plaintiff denies that the sum of \$8,870.55 with interest thereon, or any sum at all, remains due or wholly or at all unpaid from plaintiff or the Los Angeles Gas and Electric Company, or either of them, to the defendant; plaintiff admits that it refused to pay said sum of \$8,870.55 to the defendant, but denies that it has ever been requested to pay same or any part thereof to this defendant; plaintiff denies that the said sum of \$8,870.55 with interest thereon, or any sum at all, is due or wholly or at all unpaid from the plaintiff to the defendant.

### IV.

Plaintiff alleges that on the 8th day of April, 1907,

the said Los Angeles Gas and Electric Company, aforesaid mentioned, was desirous of purchasing a Water Gas Apparatus for the purpose of increasing the working capacity of its plant situated in the City of Los Angeles, County of Los Angeles, State of California, for the production and generation of gas with the use of lamp-black, a by-product of its plant, for fuel; that the defendant was fully informed of the needs and requirements of the Los Angeles Gas and Electric Company in this respect, and the character of the lamp-black fuel which it desired to use therein, and the character of its plant and the needs and the purpose for which it desired to purchase said Water Gas set, and the defendant thereupon proposed to the Los Angeles Gas and Electric Company to manufacture, install and sell to said Los Angeles Gas and Electric Company an Extended Carburetter Superheater Water Gas Apparatus of 2,700,000 to 3,000,000 cubic feet of gas per 24 hour day capacity, to be used by the said Los Angeles Gas and Electric Company for the production and generation of gas, which proposal was in writing addressed to the said Los Angeles Gas [101] and Electric Company, dated April 8, 1907, and forms a part of the Defendant's Exhibit "A."

#### V.

The Los Angeles Gas and Electric Company, solely by reason of each and every one of the representations and guarantees contained in said written proposal, and relying thereupon, did accept the defendant's said proposal and did thereupon enter into a written contract in the City of Los Angeles,

County of Los Angeles, State of California, with the defendant for the manufacturing, installation and sale by the defendant of an Extended Carburetter Superheater Water Gas Apparatus, to be manufactured and installed by the defendant at the plant of the Los Angeles Gas and Electric Company in the City of Los Angeles, County of Los Angeles, State of California, said contract being set forth in Defendant's Exhibit "A."

## VI.

That thereafter the defendant manufactured at its plant in Fort Wayne, Indiana, delivered, and installed at the plant of the Los Angeles Gas and Electric Company, in the City of Los Angeles, California, an Extended Carbureter Superheater Water Gas Apparatus, purporting to be in accordance with the contract, hereinbefore set forth, and the Los Angeles Gas and Electric Company paid the defendant on account of the purchase price under said contract, the sum of Seventeen Thousand Eight Hundred Forty-seven Dollars (\$17,847.00), in accordance with the provisions contained in said contract for the payment of fifty (50%) per cent of purchase price upon arrival of materials, Fifteen Thousand Dollars (\$15,000.00) [102] of said sum being paid by the Los Angeles Gas and Electric Company to defendant on September 1, 1907, and Two Thousand Eight Hundred Forty-seven Dollars (\$2,847.00) on October 22, 1907; further, the said Los Angeles Gas and Electric Company paid on account of the defendant, for freight on said apparatus, the sum of Three Thousand Nine Hundred Thirty-

eight and 49/100 Dollars (\$3,938.49), in accordance with the provisions of said contract for the payment of freight; further, the said Los Angeles Gas and Electric Company paid on account of the defendant, for expressage on said apparatus, the sum of One Hundred One and 30/100 Dollars (\$101.30), in accordance with the provisions contained in said contract for the payment of expressage; further, the Los Angeles Gas and Electric Company, on the 20th of February, 1908, paid on account of the defendant, for hauling of a part of said apparatus the sum of Two Dollars (\$2.00) in accordance with the provisions of said contract for the payment of said hauling; further, the Los Angeles Gas and Electric Company advanced to defendant's authorized agent and "erector," upon demand made by said agent and "erector" for money necessary to prosecute the setting up and installation of said apparatus, the sum of Four Thousand Nine Hundred Thirty-four and 66/100 Dollars (4,934.66), in accordance with the provisions contained in said contract for payment to said "erector" of such sums as he might need. That the defendant has at all times retained all of said money paid and advanced to the defendant by the Los Angeles Gas and Electric Company as aforesaid.

Further, the Los Angeles Gas and Electric Company, at all times fully and completely performed each and [103] every and all conditions upon its part under said contract, hereinbefore set forth.

## VII.

That the defendant did, after the installation of



its said apparatus, proceed to test and operate same, and the defendant did make two complete tests of its said apparatus. That said apparatus never operated fully or completely or successfully, or in any respect approached or fulfilled all or any of the guaranties in the contract hereinbefore set forth, during the said tests, but without any fault on the part of the said Los Angeles Gas and Electric Company, said apparatus did at all times during the said tests carried on by defendant, fail to make the quantities and quality of gas, with the economy of fuel or oil set forth in said contract; that said apparatus did at no time during any period of twenty-four (24) hours in either of said tests produce as much as the minimum quantity of gas provided for and guaranteed in said contract; that said apparatus did not at any time during said tests produce gas upon a consumption of thirty-five (35) pounds, or less, of lamp-black containing not more than ten (10) per cent of moisture per thousand cubic feet of gas made, as provided and guaranteed in said contract; that said apparatus did not at any time during said tests produce gas upon a consumption of four and one-half ( $4\frac{1}{4}$ ) gallons or less, of California crude oil of 17 degrees Baume, or over, per thousand cubic feet of gas made, as provided in said contract; that said apparatus at no time during said tests was able to perform, or did perform, according to the said contract, but at all times during said tests [104] said apparatus produced much less than two million seven hundred and fifty thousand (2,750,000) cubic feet of gas per day of

twenty-four (24) hours; that said apparatus did at all times during said tests consume far in excess of thirty-five (35) pounds of lamp-black containing less than ten (10%) per cent of moisture, per thousand cubic feet of gas made; that said apparatus did consume far in excess of four and one-half ( $4\frac{1}{2}$ ) gallons of California crude oil of not less than 17 degrees Baume per thousand cubic feet of gas made; that said increased consumption of oil and fuel during said tests greatly increased the cost of production of gas by said apparatus per thousand cubic feet of gas made, over and above what the cost would have been under the guaranteed consumption, set forth in the contract.

That the said gas made by said apparatus during said tests was not "good commercial gas well-fixed and noncondensable," but that said gas was at all said times of excessive heat, condensable and not fixed, and contained a great percentage of aqueous vapor and tar substances.

That the generator in said apparatus was during said tests defective in construction, arrangement and plan, in that it was unable to sustain the fire bed to a sufficient height to enable the apparatus to reach the contract gas making capacity, or even approach same, and in that it was unable to bring the entire fuel bed to the proper incandescence for gas-making purposes, and in that it was unable to generate sufficient water gas to enable the defendant's apparatus to fulfill the contract guarantees as to gas-making capacity.

That the defendant also failed to complete said

apparatus in accordance with specifications number 1389, [105] provided in said contract, in that defendant failed to equip said apparatus with the "hydraulic operated combination valve system" connecting the generator and carburetter, as specified on page 3 of Specifications Number 1389, but defendant, instead thereof, equipped said apparatus with a 36-inch disc valve of water-cooled body, and said valve so furnished was to the knowledge of defendant, cracked and useless, and seriously interfered with the operation of said apparatus; in that the defendant failed to complete the "charging floor," and left portions of it unlaidd, and other portions loosely fastened; in that the defendant failed to paint the shell and pipe with metallic paint, as provided for on page 11 of the Specifications Number 1389; in that the defendant failed to provide said apparatus with a "divided blast grate," insuring uniform distribution of air impinging directly against the entire bottom surface of the fuel bed; in that defendant failed to equip said apparatus with "special distributors," "insuring uniformity of steam supply"; and in that defendant failed to equip said apparatus with "adjustable injectors" for vaporization of oil in the carburetter.

#### VIII.

That said apparatus was during and at the completion of said tests of no value to the Los Angeles Gas and Electric Company, by reason of the failure of said apparatus to perform according to the terms and guarantees of said contract, and its uncompleted condition, as heretofore set forth, and the said Los

Angeles Gas and Electric Company refused at all times to accept said [106] apparatus, and never did accept same, and said apparatus is now, and has been at all times, the sole property of the defendant, and is now and always has been subject to defendant's right to remove and dispose of same.

## IX.

That the Los Angeles Gas and Electric Company after the aforesaid tests, demanded of the defendant that it return to the said Los Angeles Gas and Electric Company the money so far advanced to it by said Los Angeles Gas and Electric Company under said contract, as hereinbefore set forth, and upon the refusal of the said defendant to return all or any part of the said money, the Los Angeles Gas and Electric Company commenced an action at law on the 24th day of July, 1908, against the defendant herein in the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division, to recover Thirty-five Thousand Fifty and 80/100 Dollars (\$35,050.80) damages from said defendant for the failure to perform the contract hereinbefore set forth. That the defendant was served with a copy of the complaint and summons in said action at law and appeared in said court in response thereto.

## X.

Thereafter, on or about the 1st day of July, 1909, the defendant inquired of the said Los Angeles Gas and Electric Company if it were possible for said parties to adjust the controversy existing between them without litigation, and thereafter on the 12th

day of July, 1909, [107] with the express intention and purpose of finally settling and disposing of the controversy and litigation which had arisen between them as aforesaid the said Los Angeles Gas and Electric Company and the defendant entered into the contract set forth in defendant's cross-complaint marked Exhibit "B."

## XI.

That after the execution of the said contract and before the commencement of this action, the said action brought by the said Los Angeles Gas and Electric Company against this defendant herein, as heretofore set forth, was dismissed by the plaintiff herein without prejudice; that the Los Angeles Gas and Electric Company at all times fully and completely performed each, every and all conditions upon its part of said contract of July 12th, 1909, hereinbefore set forth.

## XII.

That thereafter the defendant made such changes in its said apparatus as it desired for the final test of said apparatus. That on the 28th day of February 1910, the defendant notified the plaintiff that it would commence its final twenty (20) day test of said apparatus, on the morning of March 10th, 1910, at 6:00 o'clock A. M., as provided for in the aforesaid contract of July 12, 1909. That on the 10th day of March, 1910, the defendant commenced said final test under said contract of July 12, 1909. That on the 30th day of March, 1910, at 6:00 o'clock A. M., the defendant completed its final test and notified [108] plaintiff to that effect, and shut down its said



apparatus and ceased making gas therein.

### XIII.

That the defendant, without any fault on the part of the plaintiff, failed during said final test under said contract of July 12, 1909, to bring the said apparatus to an established gas-making capacity as defined in said contract, of at least 2,000,000 cubic feet per twenty-four (24) hours of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, provided for in said contract; that said apparatus did not during said final test obtain or reach an average capacity of two million (2,000,000) cubic feet of gas per twenty-four (24) hours for twenty (20) consecutive days, but during said test said apparatus produced an average of much less than two million (2,000,000) cubic feet of gas per twenty-four (24) hours, to wit, an average not exceeding one million seven hundred and fifty thousand (1,750,000) cubic feet of gas per twenty-four (24) hours; that said apparatus did not during said test produce gas upon an average consumption of thirty-five (35) pounds, or less, of lamp-black containing not more than ten (10%) per cent moisture, per thousand cubic feet of gas made, but said apparatus did during said test consume on the average of thirty-nine and 58/100 (39.58) pounds of lamp-black containing less than ten (10%) per cent of moisture, per thousand cubic feet of gas made; that said apparatus did not during said test produce gas of a candle-power equal to that specified in said contract of July 12, 1909, in that the average candle-

power of the gas produced during said test did not exceed eighteen and 9/10 (18.9) [109] candle-power; that said increased consumption of lamp-black by said apparatus during said test, over and above that provided in said contract and the decreased gas-making capacity of said apparatus, from that provided for in said contract, greatly increased the cost of production of gas by said apparatus, per thousand cubic feet of gas made, over and above what the cost would have been had defendant's apparatus performed according to the guarantees of said contract. That said apparatus is of no value to plaintiff, by reason of its failure to perform according to said contract.

#### XIV.

That after said final test defendant abandoned its said apparatus and left it at plaintiff's plant, unused by plaintiff, in a defective, unfinished, incomplete and dilapidated condition as hereinafter set forth, to wit, the charging floor is loosely laid, the plates thereof being illy fitted, making said floor uneven and unsightly in appearance, and unfit for the proper use of lamp-black fuel in said apparatus; the top of the generator is in a dilapidated condition, being insufficiently reinforced, and leaky, allowing gas, tar and oil to escape; the charging floors are in a leaky condition where they are bolted to the top head of the generator; that 20" Crane gate valve installed by defendant is installed in a temporary and imperfect manner and is not sufficiently installed for a [110] permanent and successful operation of the apparatus; a large part of the brick work in the

carburetter is broken down and unfit for proper operation; the cast-iron connecting pipe between the carburetter and superheater is in a leaky condition, and patched in a temporary manner by means of cement; the checker-brick in the superheater is in a crumbled and broken condition; that said apparatus has never been painted with metallic paint; that by reason of the aforesaid dilapidated condition said apparatus is in no condition to be further operated without first making extensive repairs thereon, and the expending of a large amount of money.

## XV.

That the plaintiff at all times fully and completely performed each, every and all conditions upon its part under said contract, hereinbefore set forth.

That plaintiff has never accepted said apparatus, and said apparatus is now and has been at all times the sole property of the defendant, and is now and always has been subject to defendant's right to remove and dispose of same; that said apparatus is now of no value, and never has been of any value to plaintiff, by reason of its unfit and dilapidated condition and failure to attain an established capacity, as defined in said contract, of at least two million (2,000,000) cubic feet per 24 hours, of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, according to said contract of July 12, 1909, as hereinbefore set forth. [111]

## XVI.

That by reason of the failure of said apparatus to attain an established capacity, as defined in said

contract, of two million (2,000,000) cubic feet per 24 hours, of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, according to the contract of July 12, 1909, the plaintiff did on the 5th day of April, 1910, and on the 8th day of April, 1910, demand of the defendant that the defendant immediately return to the plaintiff the sum of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 Dollars (\$26,823.45), and at once remove its said apparatus from plaintiff's premises, at defendant's own cost and expense, as in said contract provided.

#### XVII.

That the defendant failed, neglected, and refused at all times to return to the plaintiff said sum of Twenty-six Thousand Eight Hundred Twenty-three and 45/100 Dollars (\$26,823.45), or any part thereof, or to remove its said apparatus from plaintiff's premises.

WHEREFORE, plaintiff prays that the defendant take nothing by its cross-complaint. [112]

Plaintiff for answer to defendant's second cause of action and cross-complaint, says:

#### I.

The plaintiff refers to its answer to defendant's first cause of action and cross-complaint herein and makes paragraphs numbered IV, V, VI, VII, VIII, IX, X, XI, XII, XIII, XIV, XV, XVI, and XVII of said answer to defendant's first cause of action and cross-complaint a part of this answer to defendant's second cause of action and cross-complaint by

this reference, as fully and completely as if same were herein set out at length.

## II.

Plaintiff denies that prior to the beginning of the final test of said apparatus under the contract of July 12, 1909, or at any other time or at all, that the plaintiff or the Los Angeles Gas and Electric Company, or either of them, agreed with the defendant that it was not material that the defendant during said test should make gas of twenty (20) or twenty-two (22) candle-power; plaintiff denies that at said time, or at any other time or at all, the Los Angeles Gas and Electric Company or the plaintiff agreed with the defendant that if the defendant should make gas with an average economy of oil so that 4.44 candle-power per thousand (1,000) cubic feet of gas was produced for each gallon of oil used that it would satisfy the guarantees; plaintiff denies that the Los Angeles Gas and Electric Company or the plaintiff agreed that any candle-power under twenty (20) or twenty-two (22) candle-power would satisfy the guarantees under said contracts Exhibits "A" and "B." Plaintiff denies that the plaintiff [113] or the Los Angeles Gas and Electric Company agreed with the defendant that said guarantees meant that said apparatus should produce 4.44 candles per gallon of oil per thousand (1,000) cubic feet manufactured. Plaintiff alleges that the defendant at no time even advanced the suggestion that the guarantees set forth in said contracts meant 4.44 candles per thousand (1,000) cubic feet of gas produced for each gallon of oil used, or that said guarantees meant



anything else than twenty (20) or twenty-two (22) candle-power, except near the time of completion of said final test when the defendant's agent advanced the suggestion that said guarantees meant 4.44 candles per thousand (1,000) cubic feet of gas produced for each gallon of oil used, and the plaintiff at said time stated to the defendant and its agents that said guarantees did not mean 4.44 candles per thousand (1,000) cubic feet of gas produced for each gallon of oil used, and plaintiff did at said time claim and assert that the said guarantees meant twenty (20) or twenty-two (22) candle-power and nothing else.

### III.

Plaintiff denies that the defendant duly, or at all performed any, or all of the conditions on the defendant's part under said contract Exhibit "B" but alleges that defendant failed to perform same as hereinbefore set forth; and plaintiff denies that said apparatus or set, duly, or at all performed the said guarantees provided in said contract, or in accordance with the agreements Exhibits "A" and "B," but failed to perform same as is hereinbefore set forth. Plaintiff denies that the alleged stipulation set forth in paragraph II of defendant's [114] second cause of action and cross-complaint was ever entered into.

### IV.

Plaintiff denies that the defendant proceeded to make gas of the kind specified in paragraph IV of the defendant's second cause of action and cross-complaint, or gas of any kind or quality whatsoever, after entering into an agreement such as is set forth

in paragraph II of defendant's second cause of action and cross-complaint.

Plaintiff alleges that the defendant in the aforesaid final test of said apparatus attempted to make gas of the kind specified in said contract Exhibits "A" and "B," and alleges that if the defendant proceeded to make gas of 4.44 candle per thousand (1,000) cubic feet of gas manufactured per gallon of oil used with said apparatus it was without the knowledge or consent of the plaintiff, or of the Los Angeles Gas and Electric Company.

Plaintiff denies that the said contract Exhibit "A" was ever modified, whether as set forth in paragraph III of the defendant's second cause of action and cross-complaint, or otherwise or at all.

#### V.

Plaintiff denies that said apparatus was brought to an established capacity as defined in said contract Exhibit "A" of at least 2,700,000 cubic feet of gas per twenty-four (24) hours for twenty (20) consecutive days; plaintiff alleges that the established capacity of said apparatus during said test for twenty (20) consecutive days did not exceed 1,750,000 cubic feet of gas per twenty-four (24) hours; plaintiff denies [115] that during said test said apparatus made gas with a consumption of not more than thirty-two (32) pounds of dried lamp-black, or thirty-five (35) pounds of lamp-black containing not more than ten (10%) per cent moisture per thousand (1,000) cubic feet of gas made, but alleges that the said apparatus did during said test consume on an average thirty-nine and 58/100 (39.58) pounds of

lamp-black containing not more than ten (10%) per cent moisture per thousand (1,000) cubic feet of gas made; denies that during said test that said apparatus used only four and 36/100 (4.36) gallons of California crude oil of 17° Baume per thousand (1,000) cubic feet of gas made, or produced an average candle-power of 19.05, with or without any correction for suspended water, if any, in the oil delivered to the defendant during said test. Denies that said apparatus, at all times or at any time, produced 4.44 candle-power gas for each gallon of oil used, but alleges that the average candle power of the gas produced during said test did not exceed 18.9 candle-power.

## VI.

Plaintiff alleges that the Los Angeles Gas and Electric Company and the plaintiff, and each of them, have at all times fully and completely performed every and all conditions upon their part under said contracts Exhibits "A" and "B"; plaintiff denies that there is now due from plaintiff or the Los Angeles Gas and Electric Company, or either of them, to the defendant, the sum of \$8,210.95, with interest thereon from April 1st, 1910, or any sum at all.

WHEREFORE, plaintiff prays that defendant recover nothing by its cross-complaint. [116]

Plaintiff for answer to defendant's third cause of action and cross-complaint, says:

## I.

The plaintiff refers to its answer to defendant's first cause of action and cross-complaint herein and makes paragraphs numbered IV, V, VI, VII, VIII,

IX, X, XI, XII, XIII, XIV, XV, XVI, and XVII, of said answer to defendant's first cause of action and cross-complaint a part of this answer to defendant's third cause of action and cross-complaint by this reference, as fully and completely as if same were herein set out at length.

## II.

The plaintiff refers to its answer to defendant's second cause of action and cross-complaint herein and makes paragraphs numbered II, III, IV, and V, of said answer to defendant's second cause of action and cross-complaint a part of this answer to defendant's third cause of action and cross-complaint by this reference, as fully and completely as if same were herein set out at length.

## III.

Plaintiff denies that the plaintiff or the Los Angeles Gas and Electric Company, or either of them, has failed to perform all, or any, of the conditions imposed upon them under said contract Exhibit "B," but alleges that the plaintiff and the Los Angeles Gas and Electric Company have at all times fully and completely performed all the conditions imposed upon them by said contracts Exhibits "A" and "B." [117]

## IV.

Plaintiff admits that on the 25th day of February, 1910, it served notice upon the defendant requiring the defendant to proceed with the final test of said apparatus, as provided in said contract Exhibit "B," on March 1, 1910; plaintiff denies that the defendant consented to commence the test on March

10, 1910, in order to prevent conflict with the plaintiff, but alleges that the defendant stated to the plaintiff on the 28th day of February, 1910, that it did not desire to commence the final test on March 1, 1910, because of the absence of one of its erectors, and requested that the plaintiff allow defendant until the 10th day of March, 1910, within which to start said test; plaintiff denies that the defendant was not ready on the 10th day of March, 1910, to commence said test, or that the plaintiff knew that the defendant was not ready, but plaintiff alleges that the defendant had been engaged for months in making changes in said apparatus, and in experimenting with said apparatus for the purpose of placing it in as perfect condition as possible for said test; plaintiff alleges that the defendant had taken more than a reasonable time after the completion of its preliminary test under said contract Exhibit "B" before it commenced on the final test of said apparatus on March 10, 1910, and alleges that the defendant was, on the 10th day of March, 1910, ready to commence said test.

V.

Plaintiff denies that it did not furnish to the defendant lamp-black not containing more than ten (10%) per cent moisture, to make said test, and plaintiff [118] alleges that all of the lamp-black furnished by the plaintiff to the defendant during said test was lamp-black containing less than ten (10%) per cent of moisture. Plaintiff alleges that before the defendant and the plaintiff entered into contract Exhibit "A," that the defendant was fully



informed of the character of the fuel which the Los Angeles Gas and Electric Company desired to use in said apparatus, that the defendant was informed by the Los Angeles Gas and Electric Company that the fuel which the Los Angeles Gas and Electric Company desired to use in said apparatus was a by-product from the manufacture of gas with crude oil or petroleum, commercially, generally and by gas manufacturers known and described as lamp-black, that samples of said lamp-black, being said by-product of oil gas manufacture were sent by the Los Angeles Gas and Electric Company to the defendant for chemical analysis and examination, that the defendant was at all times familiar with, and had knowledge of the exact chemical composition of the fuel which was furnished to it at all times during the operation and test of said apparatus; plaintiff alleges that all of the lamp-black fuel furnished to the defendant by the Los Angeles Gas and Electric Company and by the plaintiff during the operation and test of said apparatus was lamp-black which was obtained as a by-product from the manufacture of gas with crude oil and petroleum in the plant of the Los Angeles Gas and Electric Company and of the plaintiff, and was fuel of the same character and quality as that examined by the defendant before the execution of the contract Exhibit "A" and was a substance and material, commercially, generally and by gas manufacturers known and described as lamp-black. Plaintiff alleges that the defendant knew at all times that the lamp-black furnished to it under the con-

tract during said test was not chemically pure carbon, and that said lamp-black furnished by the plaintiff [119] and by the Los Angeles Gas and Electric Company contained not more than ten (10%) per cent of other substances than chemically pure carbon; that the Los Angeles Gas and Electric Company nor the plaintiff promised at any time to furnish the defendant with chemically pure carbon, nor did the defendant at any time expect to receive same, or request that the plaintiff or the Los Angeles Gas and Electric Company furnish it with fuel of any chemical character different from that furnished to it at all times during the operation and test of said apparatus. Plaintiff denies that the lamp-black furnished by it or by the Los Angeles Gas and Electric Company to the defendant contained, in addition to the ten (10%) per cent of moisture, more than ten (10%) per cent of other substances than chemically pure carbon. Plaintiff denies that the defendant did not discover until after April 1st, 1910, that the fuel so furnished by the plaintiff was not chemically pure carbon but was a substance containing lamp-black and other substances; plaintiff alleges that the defendant at all times after the execution of said contracts Exhibits "A" and "B," and for some time prior to the execution of the contract Exhibit "A," knew that the lamp-black which was to be furnished to it for the operation and test of said apparatus would not be chemically pure carbon, and knew that the lamp-black which was to be furnished to it during said test would be fuel of the exact chemical

composition as was the lamp-black which was furnished to the defendant by the Los Angeles Gas and Electric Company and by the plaintiff at all times. Plaintiff denies that the substances contained in said fuel furnished by plaintiff, other than the chemically pure carbon contained therein, would not make gas, or was not fitted to make gas, or was detrimental to, or injurious to the machinery or process of making [120] gas or caused consumption of fuel to drive off or consume the substances other than lamp-black contained in said fuel.

Plaintiff alleges that the other substances contained in said lamp-black furnished to the defendant, other than chemically pure carbon, was capable of and fitted for the making of gas.

Plaintiff alleges that the capabilities of said other substances than chemically pure carbon for gas making, and their effect on said apparatus and machinery were all known to the defendant prior to the execution of said contracts Exhibits "A" and "B" and at all times thereafter. Plaintiff denies that the said apparatus was prevented from making many, or any, thousands of cubic feet of gas in addition to what it did make during said test, by reason of the character of fuel furnished by the plaintiff or the Los Angeles Gas and Electric Company to the defendant during said test. Plaintiff denies that said apparatus or set was damaged or injured by reason of the attempt to consume such substances furnished by the plaintiff or the Los Angeles Gas and Electric Company to the defendant for fuel. Plaintiff alleges that all of the fuel mate-

rial furnished by it to defendant for the purpose of making said final test was a substance and material commercially, generally and by gas manufacturers known and described as lamp-black, and that said material contained not more than ten (10%) per cent moisture.

## VI.

Plaintiff denies that the fuel furnished by the plaintiff was not furnished in a scientific shape, or in the usual way, or according to the understanding between the defendant and the Los Angeles Gas and Electric Company or the plaintiff, or according to good practice for handling such fuel. Plaintiff alleges that it is not aware of any possible condition into which said fuel might be formed into, which could be termed "scientific shape." Plaintiff [121] denies that there was any understanding between the defendant or the Los Angeles Gas and Electric Company or the plaintiff as to the shape or form in which said fuel should be furnished to the defendant. Plaintiff denies that the said fuel should have been dried until it contained less than ten (10%) per cent moisture and then pressed into bricks. Plaintiff denies that the fuel furnished by it crumbled into dust after being put into the fire in said apparatus, or packed the fuel bed, or seriously or at all interfered with, or prevented proper combustion thereof.

Plaintiff denies that the adhesive properties of the bricks furnished defendant by it would have been any greater, or of any greater tensile strength, if the said lamp-black had been dried and then pressed into the form of bricks; plaintiff denies that the exterior of

the bricks furnished by the plaintiff to the defendant were drier than the interior, or that when said bricks were used the moisture on the interior of the said bricks caused the said bricks to expand more rapidly than the exterior, or caused said bricks to burst into fragments or into powder, or to break at all, or smother out the fire; denies that the said bricks would not hold their shape or stand the fire necessary to produce combustion or produce gas. Denies that the said bricks were defectively moulded, or that the moulds were not filled with the material prior to their being compressed.

Plaintiff denies that the conduct of the plaintiff in furnishing said bricks in the shape in which they were furnished is or was contrary to practice and contrary to good workmanship, or that it compelled the defendant to shut down the apparatus three days, or at any time or at all, to [122] permit cleaning out the carburetter from accumulated fine carbon, or for any other reason, which had closed up the gas passages or necessitated the removal of brick work or replacement of same before gas making could be continued. Plaintiff alleges that the shutting down of said apparatus was not the result of any fault or neglect on the part of the plaintiff, or its servants, or agents, or employees.

## VII.

Plaintiff denies that in the manufacture of gas or in the operation of apparatus such as was erected by the defendant at plaintiff's plant, it is the usual custom, or usual practice, or custom or practice at all, of all or any manufacturers of gas to shut down such



apparatus one day out of every seven, or more often than one day a month for the purpose of cleaning out said apparatus, or cooling the same, or for any other purpose at all; denies that the defendant understood at the time said test was commenced, or at any other time, that such custom or practice of shutting down one day in every seven would be followed in the operation of said apparatus. Plaintiff alleges that when the defendant commenced said test it was expressly understood and agreed that said test was to continue for twenty (20) consecutive days; plaintiff denies that it refused to allow the defendant, during said test, to shut down said machine or to stop the same one day in each week for the purpose of cleaning the said apparatus or cooling the same, but plaintiff alleges that it did at all times refuse to allow the defendant to exclude the time consumed in shutting down said apparatus in the computation of the amount of gas produced by said apparatus during said final test. Plaintiff denies that the necessity [123] for cleaning said apparatus, if any necessity existed, was increased by reason of the fuel furnished by the plaintiff to the defendant, and denies that the fuel so furnished was defective. Plaintiff denies that the defendant has always insisted that it was entitled to have one day in each week when said apparatus should not run for the purpose of cleaning same, but plaintiff alleges that such idea was never advanced by the defendant until during the performance of said final test and the defendant discovered that its apparatus was so faulty in construction and design that it was impossible to operate same for

more than a few days successively without shutting it down for cleaning out and repairs. Plaintiff alleges that it is not usual or customary or necessary in operating gas apparatus of the type and character which the apparatus installed by the defendant purported to be, to shut the same down one day out of every seven days, or shut them down at all more often than one day a month, for any purpose whatever, except barring accidents. Plaintiff denies that the defendant never consented that the test of twenty (20) days between March 10, 1910, and April 1, 1910, was a test in accordance with the contract between the parties as should be interpreted according to the usual custom and practice, or in accordance with said contracts Exhibits "A" and "B"; in this regard, plaintiff denies that the defendant proceeded with the said test under protest, or continually or at all protested to the plaintiff that it was not ready to commence said test, or to continue said test. Plaintiff denies that the defendant claimed that it was entitled to shut down or stop the operation of said machinery one day in every week for the purpose of cleaning or cooling same, at any time prior to the commencement of said test, nor did the defendant so claim [124] until near the completion of said test. Plaintiff denies that if the defendant had been permitted to operate the said machine in accordance with the contract, or according to the usual course or custom or practice in the operation of such apparatus or set that the defendant would, during said operating period, have produced more than three million (3,000,000) cubic feet or more than 1,750,000 cubic

feet, per twenty-four (24) hours, or would have established an average capacity of said machine to be more than 1,750,000 cubic feet per twenty-four (24) hours; denies that said defendant was denied the privilege or opportunity to operate said machine in accordance with the said contract, or according to the usual course or custom in the operation of such apparatus. Plaintiff denies that said apparatus reached a capacity of 2,700,000 cubic feet during said first twenty-four (24) hours of said test, or that said apparatus was unable to maintain a capacity of 2,700,000 cubic feet per twenty-four (24) hours because of the fuel furnished to it by the plaintiff, or to the rapid or any accumulation of dust from same, carried over into the fixing chambers, or which was combined with deposits from the oil or thus closed the gas passages in fixing chambers.

Plaintiff denies that there has never been any test of said apparatus. Plaintiff alleges that there has been a final test of said apparatus, as hereinbefore set forth. Plaintiff denies that it performed any of the acts set forth in paragraph V of the defendant's third cause of action and cross-complaint, at the instance or with the consent of the Los Angeles Gas and Electric Company. [125]

#### VIII.

Plaintiff denies that the defendant has been damaged in the sum of Ten Thousand (\$10,000) Dollars, or in any sum at all, by reason of any of the acts of the plaintiff or of the Los Angeles Gas and Electric Company, whether as set forth in defendant's third cause of action and cross-complaint or otherwise or at all.

## IX.

Plaintiff denies that the Los Angeles Gas and Electric Company or the plaintiff refused to allow the defendant to make any test of said apparatus or set, or to demonstrate its capacity with lamp-black containing not more than ten (10%) per cent moisture as provided in said contract. Plaintiff denies that there is due to the defendant the sum of Eight Thousand Two Hundred Ten and 95/100 (\$8,210.95) Dollars, with interest from April 1st, 1910, or any sum at all.

Plaintiff denies that by reason of the alleged damage to the defendant by reason of any of the alleged facts set forth in the defendant's third cause of action and cross-complaint, there is due to the defendant from the plaintiff or from the Los Angeles Gas and Electric Company the sum of Eighteen Thousand Two Hundred Ten and 95/100 (\$18,210.95), or any other sum at all.

WHEREFORE, plaintiff prays that defendant recover nothing by its cross-complaint.

WM. A. CHENEY,  
HERBERT J. GOUDGE,  
LEROY M. EDWARDS,  
Attorneys for Plaintiff. [126]

State of California,  
County of Los Angeles,—ss.

A. B. Day, being first duly sworn, deposes and says: That he is an officer, to wit, Assistant Secretary of the corporation plaintiff mentioned in the foregoing Answer to Cross-complaint; that he has read the said answer and knows the contents thereof, and that the

same is true of his own knowledge, except as to the matters therein stated on information or belief, and as to those matters, that he believes it to be true.

A. B. DAY.

Subscribed and sworn to before me this 11th day of October, 1910.

[Seal]

PAUL OVERTON,

Notary Public in and for the County of Los Angeles,  
State of California.

[Endorsed]: Original. No. 1558. Dept. ....  
In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation. Answer to Cross-complaint. Received Copy of the Within Answer this .... day of Oct., 1910. Oscar A. Trippet, Attorneys for Defendant. Filed Oct. 20, 1910. Wm. M. Van Dyke, Clerk. Chas. N. Williams, Deputy. Wm. A. Cheney, LeRoy M. Edwards, Herbert J. Goudge, 645 So. Hill St., Los Angeles, Cal., Attorneys for Plaintiff. [127]



*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

**Amendments to Complaint.**

Comes now the plaintiff in the above-entitled action, and, by leave of the Court first had and obtained, files these its amendments to the complaint of the plaintiff already on file in said cause, as follows, to wit:

I.

Amend paragraph XVI of the complaint so that the same shall read as follows:

“That the defendant, without any fault on the part of the plaintiff, failed during said final test under said contract of July 12, 1909, to bring the said apparatus to an established gas making capacity as defined in said contract, of at least 2,000,000 cubic feet per twenty-four (24) hours, of the kind of gas specified in said contract, with the same economy of lamp-black fuel containing not more than ten (10%) per cent moisture, provided for in said contract; that said apparatus did not during said final test obtain

or reach an average capacity of two million (2,000,000) cubic feet of gas per twenty-four (24) hours for twenty (20) consecutive days, but during said test said apparatus produced an average of much less than two million (2,000,000) cubic feet of gas per twenty-four (24) hours, [128] to wit, an average not exceeding one million seven hundred and fifty thousand (1,750,000) cubic feet of gas per twenty-four (24) hours; that said apparatus did not during said test produce gas upon an average consumption of thirty-five (35) pounds, or less, of lamp-black containing not more than ten (10%) per cent moisture, per thousand cubic feet of gas made, but said apparatus did during said test consume on the average of thirty-nine and  $58/100$  (39.58) pounds of lamp-black containing less than ten (10%) per cent moisture, per thousand cubic feet of gas made; that said apparatus did not during said test produce gas of a candle-power equal to that specified in said contract of July 12, 1909, in that the average candle-power of the gas produced during said test did not exceed eighteen and  $9/10$  (18.9) candle-power; that said increased consumption of lamp-black by said apparatus during said test, over and above that provided in said contract, and the decreased gas-making capacity of said apparatus from that provided for in said contract, greatly increased the cost of production of gas by said apparatus, per thousand cubic feet of gas made, over and above what the cost would have been had defendant's apparatus performed according to the guarantees of said contract. That said apparatus is of no value to plaintiff, by reason of its failure to

perform according to said contract.”

WM. A. CHENEY,

HERBERT J. GOUDGE,

LEROY M. EDWARDS,

Attorneys for Plaintiff. [129]

State of California,

County of Los Angeles,—ss.

R. M. Adams, being first duly sworn, deposes and says: That he is an officer, to wit, Secretary of the corporation plaintiff mentioned in the foregoing Amendments to Complaint; that he has read the said Amendments and knows the contents thereof, and that the same is true of his own knowledge except as to the matters therein stated on information or belief, and as to those matters that he believes it to be true.

[Seal]

R. M. ADAMS.

Subscribed and sworn to before me this 15th day of September, 1911.

PAUL OVERTON,

Notary Public in and for the County of Los Angeles,  
State of California.

[Endorsed]: No. 1558. Dept. . . . . In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff, vs. The Western Gas Construction Company, a Corporation, Defendant. Amendments to Complaint. Received Copy of the Within Amendments this . . . day of September, 1911. . . . ., Attorneys for Defendant. Filed September 21st, 1911. Wm. M. Van Dyke, Clerk. By Chas. N. Will-

iams, Deputy Clerk, Wm. A. Cheney, Herbert J. Goudge, LeRoy M. Edwards, 645 South Hill Street, Room 31, Los Angeles, Cal., Attorneys for Plaintiff.  
[130]

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*In the Circuit Court of the United States, Ninth Circuit, Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

**Amendment to Answer to Complaint as Amended.**

The defendant, by leave of the Court first had and obtained, amends its first answer by adding at the close of paragraph VII of said first answer of said defendant the following allegation and denial:

The defendant denies that on the 30th day of March, 1910, at 6:00 o'clock A. M. or at any other time, the defendant completed its said final test, or notified plaintiff to that effect, or shut down its said apparatus, or ceased making gas therein. The defendant admits that said apparatus was shut down, and that there was a cessation of making gas therein, but that said machine was shut down, and the making of gas ceased by reason of the fact that the plaintiff would not further co-operate with the defendant in operating said machine or making said gas, and re-

fused further to permit the defendant to continue said test.

As to the allegations contained in paragraph numbered XVII of the complaint, the defendant adds to paragraph IX of the first answer the following allegations:

That the top of the generator, on the 30th day of March, 1910, leaked badly, making it extremely inconvenient and disagreeable for the gas-makers and helpers on the floor; that [131] this was a mechanical defect and could be easily remedied upon the discovery of the same, and the defendant intended to, and offered to the plaintiff to take off the head of said generator and put proper gaskets between the flanges, which operation was simple and would have overcome said difficulty; and the defendant intended to put "I" beams across the top of the generator as stiffeners, and to re-set the coal-hole branches, placing asbestos gaskets between the flanges and the top of the generator, in order to remedy the said alleged defects complained of by the plaintiff, and the said defendant so notified the plaintiff that said work would be done; and while the defendant does not know whether the bricks in the superheater had fallen down, the defendant offered to the plaintiff to replace said brick, if such had fallen down, and to put them in proper and good shape, all of which offer was made to the plaintiff by the defendant on April 6, 1910.

OSCAR A. TRIPPET,  
WARD CHAPMAN,  
Attorneys for Defendant. [132]



State of California,  
County of Los Angeles,—ss.

O. N. Guldin, being by me first duly sworn, deposes and says, that the Western Gas Construction Company, defendant herein, is a corporation, and that affiant is an officer thereof, to wit, its president, and makes this verification for and on behalf of said corporation, that he has heard read the foregoing Amendment to Answer of Complaint as Amended and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters which are therein stated upon his information or belief, and as to those matters that he believes it to be true.

[Seal]

O. N. GULDIN,  
TRIPPET.

Subscribed and sworn to before me this 18 day of  
September, 1911.

LOU LOU COOMBS,  
Notary Public in and for the County of Los Angeles,  
State of California.

[Endorsed]: Original, No. 1558. Dept. . . . . In  
the Circuit Court of the U. S., 9th Circuit, So. District  
of Cal., So. Div. Los Angeles Gas & Electric Corpo-  
ration, Plaintiff, vs. The Western Gas Construction  
Company, Defendant. Amendment to Answer to  
Complaint as Amended. Received Copy of Within  
this 18th of Sept., 1911. L. M. Edwards, Wm. A.  
Cheney, Herbert J. Goudge, Attorney for Plaintiff.  
Filed September 21st, 1911. Wm. M. Van Dyke,  
Clerk. By Chas. N. Williams, Deputy Clerk. Oscar

A. Trippet, Ward Chapman, 315 Coulter Building,  
213 So. Broadway, Los Angeles, Cal., Attorney for  
Defendant. [133]

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*In the United States Circuit Court, Ninth Circuit,  
Southern District of California, Southern Divi-  
sion.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPO-  
RATION (a Corporation),

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COM-  
PANY (a Corporation),

Defendant.

### **Judgment.**

This cause came on regularly for trial before the Court without a jury, a jury having been waived, and the plaintiff was represented by its attorneys, Messrs. Herbert J. Goudge and LeRoy M. Edwards, and the defendant by its attorneys Messrs. Oscar A. Trippet and Ward Chapman, and the evidence on behalf of the plaintiff having been introduced in support of the allegations of its complaint as amended, and on behalf of the defendant in support of its answer and cross-complaint having been adduced, and the Court having made and filed its findings of fact and conclusions of law, and ordered judgment accordingly:

NOW, THEREFORE, by virtue of the law and by reason of the premises aforesaid, it is considered by

the Court, that plaintiff is not entitled to recover against the defendant the amount prayed for in its complaint, or any sum whatever, and that it take nothing by its suit.

AND IT IS FURTHER considered by the Court, that defendant is not entitled to recover against the plaintiff the amounts prayed for in its cross-complaint, nor any sum, and that defendant take nothing against plaintiff by its said cross-complaint, and that neither party recover costs of suit.

Dated, November 6th, 1911.

Judgment entered November 6th, 1911.

WM. M. VAN DYKE,  
Clerk.

By Chas. N. Williams,  
Deputy Clerk. [134]

[Endorsed]: No. 1558. U. S. Circuit Court, Ninth Circuit, Southern District of California, Southern Division. Los Angeles Gas & Electric Corporation (a Corporation), Plaintiff, vs. Western Gas Construction Company (a Corporation), Defendant. Copy of Judgment. Filed Nov. 6, 1911. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. [135]

[Certificate to Judgment-roll.]

*In the Circuit Court of the United States, Ninth Judicial Circuit, in and for the Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

I, Wm. M. Van Dyke, Clerk of the Circuit Court of the United States, for the Ninth Judicial Circuit, Southern District of California, do hereby certify the foregoing to be a true copy of the judgment entered in the above-entitled action, and recorded in Judgment Book No. 2 of said Court for the Southern Division, at page 142 thereof, and I further certify that the foregoing papers hereto annexed constitute the Judgment-roll in said action.

Attest my hand and the seal of said Circuit Court, this 6th day of November, A. D. 1911.

[Seal]

WM. M. VAN DYKE,

Clerk.

By Chas. N. Williams,

Deputy Clerk. [136]

[Endorsed]: No. 1558. In the Circuit Court of the United States, Ninth Judicial Circuit for the Southern District of California, Southern Division. Los

Angeles Gas & Electric Corporation vs. Western Gas Construction Company. Judgment-roll. Filed November 6th, 1911. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. Recorded Judgment Register Book No. 2, page 142. [137]

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C. C. No. 1558.

*In the United States District Court, Southern District of California, Southern Division.*

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.

**Engrossed Bill of Exceptions.**

Filed Mar. 22, 1912. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. [138]

*In the United States District Court, Southern District of California, Southern Division.*

No. 1558.

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation,

Plaintiff,

vs.

THE WESTERN GAS CONSTRUCTION COMPANY, a Corporation,

Defendant.



**Engrossed Bill of Exceptions.**

Be it remembered that heretofore, this cause came on regularly for trial before the above-entitled court, without a jury (a jury having been duly waived by written stipulation of both parties filed of record on the 22d day of September, 1911), and proceeded from day to day until the trial was completed on the 11th day of October, 1911.

The Hon. Olin Wellborn presiding, plaintiff being represented by William A. Cheney, Esq., Herbert J. Goudge, Esq., and Leroy M. Edwards, Esq., its attorneys, and the defendant by Oscar A. Trippet, Esq., and Ward Chapman, Esq., its attorneys, the following proceedings, and none other, were had, and the following testimony, and none other, was taken: [139]

**[Testimony of C. A. Luckenbach, for Plaintiff.]**

C. A. LUCKENBACH, a witness called on behalf of the plaintiff, being first duly sworn, testified as follows:

**Direct Examination.**

My name is C. A. Luckenbach. I am forty-six years old and reside in the city of Los Angeles. I have been manager of construction of the Los Angeles Gas and Electric Corporation since its incorporation, in August, 1909. Previous to that I was manager for the Los Angeles Gas and Electric Company. As such manager I have charge of all the works—work in and outside of the plant, and all repair work involving changes from what existed at the time of the beginning of the repairs.

(Testimony of C. A. Luckenbach.)

Q. I will ask you, Mr. Luckenbach, whether you had any negotiations in the year 1907, and if so, when, with The Western Gas Construction Company with reference to procuring apparatus for the manufacture of gas?

A. I had negotiations with them, beginning early in 1907. Prior to April, 1907.

Q. With whom did you first have negotiations for the purchase of apparatus in the year 1907 from the Western Gas Construction Company?

A. I believe the matter was first taken up in a conversation with Mr. B. F. Pederson, who is the representative in San Francisco.

Q. You say he was the representative in San Francisco of The Western Gas Construction Company? A. Yes, sir.

Q. State what the negotiations were that you first had with him with reference to the purchase from his company of a gas machine. What kind of machine it was, and what the negotiations were.

A. We asked them for prices and specifications and [140] guarantees upon one and upon two sets to produce 3,000,000 cubic feet of gas per day.

Q. Were these negotiations in the beginning oral or written?

A. To the best of my recollection the very first was oral, and later there was considerable correspondence.

Q. You did have correspondence with Mr. Pederson?

A. Both with Mr. Pederson and direct with the

(Testimony of C. A. Luckenbach.)

Western Gas Construction Company.

Q. I will ask you to look at this document of two pages that I hand you, and state whether you recognize it.     A. Yes, sir.

Q. State what it is, without stating its contents.

A. It is a letter addressed by Mr. Pederson to the Los Angeles Gas and Electric Company, to my attention.

Q. Date?     A. February 20, 1907.

Q. Did you receive this letter sometime subsequent to the day it bears date?     A. I did.

Mr. GOUDGE.—We desire to offer this letter in evidence.

Mr. CHAPMAN.—No objection.

Mr. GOUDGE.—The negotiations between the parties and their situation with reference to this contract will be more briefly and clearly shown by the correspondence that took place between them, and we have a series of letters that tell the whole story, which we will identify and introduce; and, with your Honor's permission, I will read the letters as they are introduced.

(Mr. Goudge thereupon reads the letter of February 20, 1907, in evidence, and the same was introduced in evidence, filed, and marked Plaintiff's Exhibit 1, and is as follows:) [141]

**Plaintiff's Exhibit No. 1.**

San Francisco, Cal., February 20, 1907.

Attention Mr. Luckenbach.

Los Angeles Gas and Electric Company,

Los Angeles, California.

Gentlemen:—

I am informed by the Fort Wayne office that they have furnished you with specifications and price on our gas apparatus, in accordance with your inquiry made to me personally. They also stated that they have sent you blue-prints, showing plan and elevation of apparatus, all of which will give you a definite idea of what we propose to furnish you. You may be sure that if we secure your work, it will be furnished you in first-class manner, and will be given our personal attention. If you so desire, you may specify in the contract that the erection of work should be under the immediate supervision of myself, though we have other engineers who are fully competent, if not more so, to take care of this work; and the building of works of this size would require the attention of a graduate engineer, so that there can be no question of method of erection and general details. Our guarantee of efficiency will be absolute, the quality of material being stated.

Personally we have had very little experience with lamp-black as fuel for our gas apparatus, but from a general knowledge would imagine that lamp-black being pure carbon, would make ideal fuel in the water-gas machine.

The question of oil consumption per thousand

(Testimony of C. A. Luckenbach.)

would depend largely on the quality of oil and candle-power of gas desired; but by looking over our specifications you will no doubt understand why our apparatus is better designed to take care of this than any other on the market at the present [142] time.

Trusting that you will give us an opportunity to go into this matter with you so that the entire question is fully understood, and hoping that you will call upon the writer when you are ready to consider it, I remain,

Yours truly,

B. S. PEDERSON. [143]

Defendant stipulated that Mr. Pederson was the San Francisco representative of the Western Gas Construction Company.

Q. (By Mr. GOUDGE.) I call your attention, Mr. Luckenbach, to the remark in this letter made by Mr. Pederson that the Fort Wayne office is furnishing you specifications and prices on water-gas apparatus in accordance "with your inquiry made to me personally." State what the inquiry you made to Mr. Pederson was.

A. I asked for figures on one set and two sets to produce 3,000,000 cubic feet of gas per day.

Q. Did you state what material was to be used?

A. Yes, sir; we were to use lamp-black as the fuel.

Q. Did you give any further description of that than the expression "lamp-black"?



(Testimony of C. A. Luckenbach.)

A. No, not except—I don't think I ever used any other expression than lamp-black.

Mr. GOUDGE.—We would ask for the production of the letter written by Mr. Luckenbach to The Western Gas Construction Company of March 5, 1907.

Mr. CHAPMAN.—You may use the copy, if you like.

Mr. TRIPPET.—You may use the copy. I don't know whether we have the original or not.

Mr. EDWARDS.—You waive the fact that it is a copy?

Mr. TRIPPET.—Yes.

Q. (By Mr. GOUDGE.) I will ask you to state if you recognize that document?

A. I do.

Q. Is that a true copy of the letter sent by you to The Western Gas Construction Company of March 5, 1907? A. Yes, sir.

Q. And it was mailed by you to that company?

A. It was. [144]

Mr. GOUDGE.—We desire to introduce that in evidence.

Mr. CHAPMAN.—No objection.

(Said letter is admitted in evidence as Plaintiff's Exhibit 2, and was read in evidence, and is as follows:) [145]

**Plaintiff's Exhibit No. 2.**

March 5th, 1907.

19-w

The Western Gas Construction Co.,

Fort Wayne, Indiana.

Gentlemen:—

Sometime since you sent us blue-prints of a 13 ft. water-gas set, together with your figures for furnishing the same. We have gone over the matter with your Mr. Pederson with reference to the guarantees on this set. He is familiar with the material that we intend to use, instead of coal, and when he left here, we understood he would take the matter up with you, and send us a statement of the guarantees on this set.

In going over the matter he gave us the following:

Using carbon, containing not more than 10 per cent of water, 35 pounds of carbon would be necessary per thousand cu. ft. of gas made; dry carbon, 30 pounds per thousand cu. ft. of gas made; oil consumption, 4 gals. per thousand cu. ft.

We are anxious to decide this matter very quickly, and will, therefore, ask you to reply to us at once, giving your guarantees on this set, not only as to consumption of carbon and oil per thousand cu. ft., but also your guarantee as to the maximum make that this set is good for per 20-hours, which we understand is from 2,800,000 to 3,200,000 cu. ft.

In order that no misunderstanding may occur, the carbon to which we refer is a by-product from the manufacture of oil-gas with which you are un-

(Testimony of C. A. Luckenbach.)

doubtedly familiar. The way we are handling this at present is: We convey it from the wash-box by flume to settling pits, where the water is [146] drained off, and then the carbon is either passed through a dryer or hauled into piles and sun-dried, and then made into bricks or taken in large lumps from the pile and put into the generator.

We are now negotiating for the purchase of a dryer to handle all our product and anticipate that this dryer will turn out our carbon with from 5 per cent to not to exceed 10 per cent of moisture. After passing the dryer the same will be bricked for use in the generators.

Probably Mr. Pederson has written you and you have replied before this, but to be on the safe side, we are writing you in reference to the matter.

Yours respectfully,

LOS ANGELES GAS AND ELECTRIC  
COMPANY.

By C. A. LUCKENBACH,

Manager of Construction. [147]

Q. (By Mr. GOUDGE.) I call your attention to this document and ask you if you recognize it?

A. I do. It is a letter addressed to me by the Western Gas Construction Company dated March 11, 1907, and signed by Mr. Guldlin.

Q. You have seen this letter? A. Yes, sir.

Mr. GOUDGE.—We offer this letter in evidence.

(Read in evidence and marked Plaintiff's Exhibit 3, and is as follows:) [148]

**Plaintiff's Exhibit No. 3.**

Fort Wayne, Indiana, March 11, 1907.

C. A. Luckenbach, Manager of Construction,  
Los Angeles Gas and Electric Company,  
Los Angeles, California.

Dear Sir:—

Your favor of the 5th, 19-w, just received, in reference to fuel, etc., to be used in the proposed water-gas plant.

We have not, as yet, received from Mr. Pederson information on the subject of your special fuel, and we have wired him for same.

We are familiar with the lamp-black made in oil-gas manufacture being dried and used for boiler firing, and also that this fuel might be bricked for more general use. We infer from your letter that your company has carried out this idea, and are already using such fuel in your present water-gas generators, and of course, if such is the case, it can be used in ours where the divided blast, which our Mr. Pederson undoubtedly explained to you, should present additional advantages in handling such fuel.

We are rather surprised, however, to note your statement that you can take this lamp-black in large lumps from a sun-dried pile and use same in generator, as the writer would hardly believe the fuel would be compact enough to retain its shape in a deep fuel bed by having merely been sun-dried. Will you kindly advise us what depth of fuel bed you have been able to handle in your generator with the fuel in this condition. The natural inference

(Testimony of C. A. Luckenbach.)

would be that the lumps would crumble up and pack over the grate and in the lower part of the fire. [149]

If you will kindly give us the benefit of your experience on the above lines, and with the information we will also receive from Mr. Pederson, we shall be able to forward you proper guarantees as to the performance of the proposed machines. We regret very much that Mr. Pederson's information if mailed, should not have reached us, or that he should have overlooked forwarding such, but under the circumstances, trust you will grant us the additional time to arrive at proper conclusions.

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY,

O. N. GULDLIN,

C-P.

President. [150]

Q. (By Mr. GOUDGE.) I ask your attention to this document, and ask you to state what it is, if you can recognize it?

A. It is a letter addressed by me to The Western Gas Construction Company under date March 19, 1907, answering the communication of the 11th inst.—the 11th of March.

Q. This is a copy. It is a true copy of the letter you mailed at that time to them? A. It is.

Mr. GOUDGE.—There is no objection on account of its being a copy? We offer it in evidence.

(Said letter is read in evidence and marked Plaintiff's Exhibit No. 4, and is as follows:) [151]



**Plaintiff's Exhibit No. 4.**

March 19, 1907.

In replying kindly refer to No. 19-w.

The Western Gas Construction Company,

Fort Wayne, Indiana.

Gentlemen:—

We have your letter of the 11th instant, answering ours of the 5th instant, in reference to the use of fuel in water-gas generator sets. We understand that you are familiar with lamp-black or carbon made in oil-gas manufacture and, therefore, could tell us how much carbon, with a certain percentage of water, would be necessary to produce 1000 cu. ft. of gas in your generating set. We should be pleased to have you give us a guarantee stating the number of pounds of carbon from oil-gas manufacture, containing say 5 per cent of moisture which would be necessary for 1000 cu. ft., and the amount of increase for each 1000 cu. ft. with each percentage of increase of moisture.

You ask us the depth of fuel bed that we are using. I would say that we are using a bed of about seven feet in depth in our water-gas generators.

To date you have given us absolutely no guarantees as to what the sets, the drawings of which you have forwarded us, will do. We must have these guarantees, and trust you will forward them to us by return mail.

We also note in your specifications that you provide that we shall unload and cart all material from the nearest railroad switch on arrival and deliver the same to the contractor outside of the generator house. We have a switch right close to where will erect this

(Testimony of C. A. Luckenbach.)

set, and if hauled from the depot the probable cost will be 50 cents per ton. [152] We must insist upon including this cost in your bid, and will ask you to give us by return mail a figure including everything for the set or sets erected on foundation to be furnished by us. Please let us have this reply at the earliest possible moment.

Yours respectfully,

LOS ANGELES GAS AND ELECTRIC  
COMPANY,

By C. A. LUCKENBACH,

Manager of Construction. [153]

Q. (By Mr. GOUDGE.) I will call your attention to this document and ask you if you can identify it to please state what it is.

A. It is a letter from The Western Gas Construction Company, addressed to the Los Angeles Gas and Electric Company, under date March 20, 1907.

Mr. GOUDGE.—I offer this in evidence.

(Said letter is read in evidence and marked Plaintiff's Exhibit No. 5, and is as follows:) [154]

**Plaintiff's Exhibit No. 5.**

Fort Wayne, Indiana, March 20, 1907.

Los Angeles Gas and Electric Company,

Los Angeles, California.

Gentlemen:—

We have received your wire late yesterday afternoon as follows:

“Wire guarantee one set anthracite coal for both coal and oil.”

We immediately wired to our San Francisco office

for advice from our Mr. Pederson in order to have him arrange for an immediate visit. Unfortunately, we have not, as yet, heard from him, due to the fact that he is North—although there is a possibility of his being on the way towards Los Angeles, as some business matters require his attention at an intermediate point.

We feel it would be much more desirable for him to call on you in person to discuss the guarantees more fully and intelligently than we could do it from this office, he being personally well acquainted by a large number of years experience with the different qualities of anthracite and oils used on the coast, and would be better able to form the guarantee to apply to your gas-making materials available, or intended to be used by you. In our guarantee for anthracite coal, we presume you likely refer to Welsh anthracite, of which you know there is quite a variation in quality which is not entirely governed by the percentage of combustible. There is also considerable variation in the quality of oil as between the extremely heavy oil and light oils in your section. We have been extremely successful, however, in handling all these different materials, and we are perfectly willing to make guarantees to that effect as well as [155] capacity of machine for which we sent you specifications and price.

We are likely to hear from our Mr. Pederson at any moment, and as stated, we much prefer, in our earnest desire to be governed by facts, that he should have an opportunity to discuss with you, as we can, no more than yourself, afford to have no misunder-

standing; nor should we for one moment consider the acceptance of a contract without absolutely knowing that we could fulfill every condition mentioned. So anxious are we on this point, that in case Mr. Pederson should have been called to the extreme North, as was his program, and business matters there of considerable importance should prevent his early return to San Francisco for a subsequent visit to Los Angeles, the writer would arrange for a speedy trip with our engineer, Mr. O. W. Twing, in order to arrive at an intelligent and satisfactory basis which would justify your placing this contract with us, if you are now ready to act in the matter. It is our intention, however, to wire you this afternoon at length in reply to your message so that you would understand we are doing everything in our power to bring before you the facts in an intelligent manner. Will state that our message will cover generally the following:

That we are confident we can guarantee from 30 to 35 pounds of anthracite, governed by quality of same, and four gal. of oil per thousand cu. ft. of gas manufactured; and the capacity of the machine from 130,000 to 150,000 cu. ft. per hour; also governed by quality of fuel, it being generally assumed that the actual hours of operation per diem will be about 20, allowing the balance of the time for cleaning, etc. It is assumed, of course, in the above guarantee, that the machine is in regular operation.

You will appreciate from the above that the quality [156] of the fuel governs not only the pounds of anthracite per thousand feet, but also the capacity

of the machine, as some of the Welsh and other anthracites have a great deal more clinker than others, and such higher or Welsh clinkering tendency makes a proportional increase in the total number of pounds required per thousand pounds and a proportional decrease in the generating capacity per hour or diem. You are, of course, familiar with this from your present practice.

In this connection we beg to say that we have in actual operation, with Welsh anthracite, a set that produces a gas with 30 pounds and less per 1000 cu. ft. Our extended-carburetter-superheater design is particularly well-fitted for the treatment of heavier grades of oil by the material increased superheating surface provided, which again means that lower heats can be carried; and it is a well-known fact that in oil, in proportion as a lower heat can be carried in the checker brick with a corresponding increase in the superheating surface, the percentage of heavy hydro-carbons and illuminants produced per gallon of oil will increase, with a corresponding reduction in light hydro-carbons, or lower illuminating hydro-carbons, such as marsh gas. Our patent divided blast and steam supply under the grate, can also satisfactorily handle a much greater variation in quality of fuel and maintain a uniform fire in such than could be accomplished in the ordinary construction. We have fully demonstrated this by actual operation.

The St. Paul Gas & Oil Company have just placed an order with us for a 11-foot extended-carburetter-superheater design at a material increase in cost of



construction, they having ascertained that the saving in fuel and oil, and increased capacity would, inside of less than two years, pay for the entire installation, as compared with their [157] present regular machine.

In reference to the construction of this set, we are now in position to handle same promptly, but the large amount of work in the market, and the large number of bids on which decision is expected shortly, indicates that we shall shortly have even our large manufacturing capacity well-taxed. If your plans are matured sufficiently to act in this matter, we would urge an early decision. This would apply to one set which we infer it is your intention to cover at the present time. The installation of the second set we could not consistently undertake, in the face of the present business prospects, except on a liberal time allowance, say, not less than six months after order. We assume we could complete the first set at the present time in from 4 to 6 months, ready to make gas, in accordance with the specification submitted to you, or in other words, if two sets were wanted, it would require the time of from one to two months after completion of the first set before we could promise the second if order is placed at one time.

In case you have made up your mind as to what guarantee you want, based on your own experience with your quality of oil and fuel, and will kindly express such, we could no doubt quickly arrive at a decision in the matter after your acceptance as to material and capacity of the apparatus we have bid

(Testimony of C. A. Luckenbach.)

on. We are quite sure that you will only ask such guarantee as will be well within reasonable, practical results obtainable, and leave us some margin for even a better showing when the machine is actually constructed, as has been our experience in all eastern concerns with this improved type of machine.

We assure you of our earnest desire to secure this contract, and also of our unsurpassed facilities for [158] executing the same to your entire satisfaction, and we trust the information given above, confirming the telegram we are sending will justify your placing this order with us.

As stated, we expect to reach our Mr. Pederson at any moment, and will hold ourselves, as indicated above, in readiness for a speedy visit in order to arrive at a definite and mutually satisfactory guarantee.

Yours very truly,  
O. N. GULDIN, President.

S. Per T. W. S. [159]

Q. (By Mr. GOUDGE.) Now, the date of that last letter was March 28, 1907. The contract between the Gas Company and the Gas Construction Company was entered into in April, 1907, was it not?

A. April, 1907.

Q. Do you know whether prior to the time of making that contract or signing the contract of April, 1907, Mr. Pederson saw or had anyone representing the Gas Construction Company see, or had submitted to them, any samples of lamp-black that you produced?

(Testimony of C. A. Luckenbach.)

A. All I know is the statement made by Mr. Peder-son to me in reference to the matter. He stated to me in my office, 645 South Hill Street, that he had samples of lamp-black.

Q. When was that?

A. Prior to making of the contract in April, 1907.

Q. Did you have any conversations with him with reference to the character of the lamp-black that you proposed or desired to use as fuel in the manufacture of gas in this water-gas set that they were expecting to bid on? A. I did not, no, sir.

Q. I show you this document and ask you if you can identify it to state what it is.

A. It is a letter addressed to me by Mr. Thwing, the chief engineer of The Western Gas Construction Company, dated December 16, 1907.

Mr. GOUDGE.—We offer this letter in evidence.

(Letter was introduced into and read in evidence and marked Plaintiff's Exhibit No. 6, and is as follows:) [160]

**Plaintiff's Exhibit No. 6.**

Fort Wayne, Indiana, December 16, 1907.

Mr. C. A. Luckenbach, General Manager,  
Los Angeles Gas and Electric Company,  
Los Angeles, Cal.

Dear Sir:—

Your letter of December 10th has been received and contents carefully noted. Your statement therein regarding the terms of completion of the water-gas set we have been building for you are correct, as is also your statement in regard to the time

that has elapsed since the date upon which the apparatus was to have been in successful operation. In extenuation of these circumstances, we feel that it is proper to call your attention to the history of this installation as it has been brought to our attention.

You will remember that on account of the failure of the Laclede Christy Products Company to fulfill their definite promises in regard to shipments of tile for this job, a very considerable delay occurred and the first of the tiles required for this installation did not arrive at Los Angeles until October 3rd, or nearly a month after the date set for the completion of the apparatus. This delay, as explained to you at the time, was through no fault or intention of our own and we had every reason to believe that it would not occur. When we learned that the delay would occur, we immediately proposed to use other methods for the completion, but by agreement between yourselves and our Mr. Scheuman it was decided to await the arrival of the material from the Laclede Christy Products Company. When this material arrived work was begun by our masons at once and from reports received since then, no trouble or expense was spared to rush this work to completion.

We desire to call your attention to the following extracts [161] from letters written by our Mr. Scheuman during the progress of this work:

Sept. 20th. "The Gas Company has only about one-half of the building foundation in. Actual work on piers necessary for the support of our charging floor and building proper was not started until September 14th."

Sept. 25th. "The foundations for the building are in and have been completed three or four days, but the walls are not started, and I was informed today that they probably would not be for another two weeks."

Oct. 3rd. "Erected as much floor as possible. Building walls not up yet."

Oct. 7th. "The steel building is now being erected. Masonry walls will be built between columns of building. I would judge it would be November 1st before this building is completed."

Oct. 21st. "We have had considerable rain for the last week which has retarded the work some. We are also working with considerable more difficulty on account of the masons on brick walls, iron workers on steel building and diggers in trenches, for gas company's pipes are very much in the way to permit the most rapid kind of work."

Oct. 22nd. "The iron work of building, brick walls, trench for 24-inch pipe-line for our condensers, lamp-black lifting arrangement and our work is all going now in a space about 45 feet by 80 feet." The rain has put the lamp-black and tar-covered ground in a fearful condition. The building walls are within 8 feet of our charging floor line." [162]

Oct. 24th. "The building walls are up to charging floor line and grate floor is now being completed. The set will be all completed in 10 days." The staging for the masons on walls is very much in our way, but will be torn out tomorrow."

Oct. 26th. "The Weather has been very bad recently and today we are having intermittent showers.



There being no roof overhead our work is progressing with considerable difficulty."

The drying out fire was put in very shortly after the last letter quoted above, and the machine was actually started on November 15th. It would appear from the above that at no time were you very much ahead of our erector with such parts of your work as were essential to the operation, and even to the completion of our machine, and that at all times during the period covered by the above letters our work was delayed and rendered difficult on account of conditions resultant from the building and other operations going on, conditions over which we had no control, and for which we have not, nor do we intend to place any blame upon you. It has been our policy, under such circumstances, to take a liberal view of such difficulties as are encountered, and to shoulder any loss which we may incur on account of such conditions without murmuring.

You said in your letter of December 10th, as follows:

"Your representatives have been, we think, for a sufficient length of time experimenting with this plant in the attempt to make it comply with the requirements of the contract." We desire to take exception to the language used in this sentence, and call your attention to the fact that our representatives have been up to the present time experimenting [163] with a class of fuel which was neither mentioned nor intended in the guarantees of the contract made by us. Our water-gas plants are entirely beyond the experimental stage of water-gas plants, and in making

the contract with you, it was specifically stated that our guarantees were placed upon "dry lamp-black" or lamp-black containing not more than 10 per cent moisture. The lamp-black briquettes furnished us at the time of this contract for our inspection were analysed and were found to contain an average of less than 3 per cent of moisture. Instead of the fuel which we had every reason to believe would be supplied, and which was specifically mentioned in the terms of our contract, we find that the fuel from which we are expected to make our guarantees good contains 35 per cent to more than 40 per cent by weight of moisture. While the reports of our Mr. Pederson indicate that the machine is making gas under these conditions, it would be remarkable if it any where nearly approached its proper efficiency with the fuel which is being used.

It is not our intention or desire to take advantage of any wording of the contract, or any technical points, to evade the responsibility for the operation and results of this machine, but in simple justice to ourselves, we must insist that the conditions of the terms of the contract shall be met by you as well as ourselves. The use of lamp-black as a fuel for water-gas machines was and is an absolutely new experience to us, and we were therefore, compelled, in making you our guarantee to accept the statements as to results which were obtained by our Mr. Pederson, presumably very largely through your representatives. What we do know is the efficiency of our machine as a water-gas machine, and this we are prepared to back up against any other type of water-gas machine,

(Testimony of C. A. Luckenbach.)

as we have frequently done, and always *suc- ———*.  
[164]

We are sure you will agree with us that our representatives, Messrs. Pederson and Scheuman, have made, and are still making every effort to make this installation absolutely satisfactory to you. Neither they nor ourselves will leave anything undone with that purpose in view. It is, therefore, with regret that we note the general tone of your letter of the 10th instant, and we trust that upon more deliberate consideration, you will realize that there are two sides to this question, and that you had not one side in mind when you wrote as you did.

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

O. O. TWING,  
Chief Engineer.

A#S

c Sch.

c Ped. [165]

Q. (By Mr. GOUDGE.) After the contract of April 7th, 1907, was entered into or executed, did the defendants install the set at your works?

A. They did.

Q. And subsequently operated it? A. They did.

Q. When did they commence to operate the set that they installed under that contract?

A. My recollection is that it was some time in November, 1907, when they began to make the first gas.

Q. Do you know what the comparative capacity of

(Testimony of C. A. Luckenbach.)

the set was or was shown to be by their operations at that time?

Mr. CHAPMAN.—We object to that as calling for the conclusion of the witness. He has not qualified himself. There is no foundation laid to express an opinion or state deductions. And, moreover, we object to it as irrelevant and immaterial because certainly here we are not called upon to try the first suit that was brought in this case, as to whether the machine made good or did not in its first condition. Because, your Honor will recall, that subsequently in July, 1909, this controversy was entirely compromised and the past history of the thing wiped out, and a new test was provided for. The question is what was the result of the second test and not what result there was of the first installation.

The COURT.—I am not entirely satisfied that it will have any weight in this controversy. Perhaps the best course will be to overrule your objection to the testimony and let the record show your exception, and then later consider the circumstance. I will overrule the objection as to that and then your exception will be implied under the stipulation made.

Mr. GOUDGE.—The plaintiff excepts to the ruling of the Court. [166]

Q. (By Mr. GOUDGE.) By the expression “lamp-black” what do you mean?

A. The by-product in the manufacture of oil-gas.

Q. I call your attention to this document, and, if you identify it, please state what it is. Will you state what this document is? [167]

(Testimony of C. A. Luckenbach.)

A. It is a communication dated January 7, 1908, from the Western Gas Construction Company, by Mr. Pederson, addressed to the Los Angeles Gas and Electric Company, and received by our company through the mail.

Mr. GOUDGE.—We offer this letter in evidence and desire to read it.

Mr. CHAPMAN.—We interpose an objection to the introduction of that letter. I understand that the letter was dated January, 1908, and still bears upon the controversy that arose between the parties after the first contract was made and the machine completed. Now, it is alleged in the complaint that this contract was entered into on April 8, 1908, and that we proceeded to install the apparatus and that it did not perform the guaranty, and that thereupon they ordered us to remove the machine and return their money and that we refused to do it, and they commenced a suit, and that this controversy was pending when it was finally settled. Those allegations are admitted by the answer. There is no issue but that they claimed the machinery was not satisfactory and that they ordered the removal, and that this controversy arose. These letters are simply bearing on the disputes that arose between the parties after that machine was first operated. This letter that he now offers, as I understand it, is a letter containing—was that from our company to your company?

Mr. GOUDGE.—Yes, that was for Mr. Pederson.

Mr. CHAPMAN.—It is simply a recital by Mr. Pederson of our contention that the machine did not



(Testimony of C. A. Luckenbach.)

come up to the capacity because the conditions were not right, and that the fuel was not furnished as agreed.

The COURT.—Does it bear on the interpretation of the contract as to the fuel? '[168]

Mr. CHAPMAN.—So far as I see, it does not. If the counsel's object is simply to show that after the machine was installed there were furnished by that company to our people to use in this machine lamp-black or a substance which they called lamp-black, which is a by-product of the oil-gas manufacture, we will admit that fact, and that we used it; but if they seek to show that they furnished the material in the form and of the character called by this contract—in other words, in full compliance with the contract, we deny it. And if we open up that question, it will take weeks to try, and that is what we seek to avoid by our objection. Merely that after the machine was installed we did use the by-product of their plant—from their oil-gas machines—and used it, we admit. But we deny that it complied with the contract in respect to the form in which it was bricked, and the water content, and the other impurities contained in it. We do admit that it came from their oil-gas machine, and that the parties designated it lamp-black and that we used it.

Mr. GOUDGE.—I think that that stipulation would almost cover the ground.

The COURT.—If it covers the ground, it will shorten the trial.

Mr. GOUDGE.—Yes. But I am afraid it does not

(Testimony of C. A. Luckenbach.)

go far enough. The object of this testimony is not to show or attempt to show that we performed the contract on our part prior to the execution of this contract. We don't care whether we did or not, and we don't think the Court is concerned whether we did or not prior to the making of this supplemental contract. And I will omit parts of the latter, unless counsel desires the whole letter. I want to confine this letter merely to the point or what the expression lamp-black, as used in the original and supplemental contract, means, and also that the [169] parties agreed as to what it meant and knew what it meant, and there is a part of this letter from The Western Gas Construction Company which recites and admits that the lamp-black referred to in the contract is a by-product of our manufactured gas.

The COURT.—That would be an admission of the party, I think, Mr. Chapman, if that is the purpose of it. The objection is overruled.

(Said letter was then read in evidence, marked Plaintiff's Exhibit No. 7, and is as follows:) [170]

**Plaintiff's Exhibit No. 7.**

HOTEL HAYWARD,  
Spring and Sixth Sts.  
Los Angeles.

June 7th, 1908.

To Los Angeles Gas and Electric Company,  
Los Angeles, California.

Gentlemen:—

Commenting further on your letter of the 31st in which you notify us that you will discontinue operat-

ing the water-gas apparatus furnished by us, wish to call your attention to the following paragraph in a letter addressed to our company from Mr. Luckenbach, your manager of construction:

“In order that no misunderstanding may occur, the carbon to which we refer is a by-product from the manufacture of oil-gas with which you are undoubtedly familiar. The way we are handling this at present is: We convey it from the wash-box by flume to settling pits, where the water is drained off, and then the carbon is either passed through a dryer or hauled into piles and sun-dried, and then made into bricks or taken in large lumps from the pile and put into the generator.

We are negotiating for the purchase of a dryer to handle all of our product and anticipate that this dryer will turn out our carbon with from 5 per cent to not to exceed 10 per cent of moisture. After passing the dryer the same will be bricked for use in the generators.”

This letter was used in connection with samples of briquetted carbon for the basis of our guaranty of capacity and efficiency. Will further call your attention to the closing sentence of the first paragraph of our letter to you, dated April 8th, as follows:  
[171]

“With the use of lamp-black we guarantee that the apparatus will have a capacity of 2,750,000 to 3,000,000 cu. ft. per day of 24 hours, using dry lamp-black.”

From this you will see that we at no time contem-

plated to use moist lamp-black in the procuring of capacity, the guarantee applying to the use of dry lamp-black only in this respect. On the writer's arrival here, he made the statement to Mr. Luckenbach that the material furnished us to make gas with was not in accordance with the contract, but in order to facilitate matters and help out the gas supply we were willing to work on the material you had on hand, and so far as we could do so procured results in accordance with contract, but we definitely stated that we did not give up any of our rights in the matter, but we worked merely for the convenience of the gas company. I did not desire to take any positive stand in the matter, feeling that you were probably in need of the gas that could be made on the apparatus, and would start our apparatus in your behalf in the nature of an accommodation rather than a test. We have, as yet, not had any test of the apparatus under conditions guaranteed by our contract.

We are in no way seeking to evade responsibility and we do not wish to seem arbitrary in the matter. At the same time our interests are at stake, and they are as important to us as your interests are to you, and we must now insist upon our rights under the contract which was made in good faith with you.

The repair parts of the water-cooled valve are now here, and will be immediately placed in position. When this is finished we shall be ready to operate the apparatus, and ask you to have ready for us fuel in accordance with our contract. [172]

Upon investigation, we find that there is still due us

on the 25 per cent of the contract price which was to be paid during erection the sum of \$867.84. Your Mr. Luckenbach and also Mr. Baurhyte refuse to make any further payments to us, even before the apparatus was actually in operation. This handicapped our erector in the completion of the work. It is now necessary to have funds to pay for the necessary repair work and the water-cooled valve, and we trust that you will arrange to advance the balance of the 25 per cent of the purchase price. Kindly set a date upon which you can furnish us with material as per contract, so that we may operate the machine under proper conditions, when we are positive that we can fulfill our guarantee, both as to capacity and results.

It is our intention when the repair parts are in place to test the apparatus for results, both as to capacity and economy, and if you will furnish us the material in accordance with the contract, we shall require but a very short time to make this final test. We believe that this test can be made in a very short time after we have received the proper material, and have the machine brought to a gas-making condition.

Regarding our inability to handle the material offered us by you in an economical manner, and trusting that you will reply to this letter, setting a date upon which we may make our tests, which we trust will be an early date, we are

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY,

B. S. PEDERSON. [173]



(Testimony of C. A. Luckenbach.)

Q. (By Mr. GOUDGE.) I ask your attention to this document and, if you identify it, state what it is.

A. A letter addressed to the Los Angeles Gas and Electric Corporation by The Western Gas Construction Company, by Mr. Pederson, June 16, 1908, and received by me as representative of the company.

Mr. CHAPMAN.—This letter relates entirely to the matter of the test of the old machine—the first machine furnished—and sets forth the conditions under which the test shall be made, and it does express satisfaction with some features of it, and indicates that they will examine the fuel and let them know if it runs over a certain per cent of moisture. But I again say that I cannot see the relevancy of it, and I say again if they are seeking to prove those things—to show that they complied with the contract—

The COURT.—If that is the purpose of the testimony, it is clearly incompetent.

Mr. GOUDGE.—We stated a little while ago that we are not trying to show that we are complying with the old contract, because it makes no difference whether we did or not.

The COURT.—It is wholly immaterial whether you did comply or not, and it is wholly immaterial whether the defendant complied with it.

Mr. CHAPMAN.—We think there is no reference to lamp-black that would in any way bind us as a declaration or admission.

Mr. GOUDGE.—This was not offered on the

(Testimony of C. A. Luckenbach.)

lamp-black side of the case. This is material because it is from the Western Gas Construction Company, and refers to the manner in which the test shall be applied to this apparatus. When the supplemental contract was made, no new tests were prescribed. It still had to have a certain make of gas for a certain quantity of fuel, and the same kind of fuel, the same kind of oil; and what was a test [174] under the first contract would be a test under the second. We will have to establish when we make our case, in what way we measured the gas, for example, in what way we weighed the carbon, and what way we measured the oil, if you please, and they will say that is the wrong way. But we have confessions and admissions on their part of what was the right way to apply those tests.

The COURT.—Read it and let me see what it is.

(Mr. GOUDGE reads said letter.)

(Discussion.)

Mr. CHAPMAN.—We would like to add to our objection that the recital of the conditions as they existed at that particular test is no evidence as to the conditions later.

The COURT.—If there are no conditions described in the second contract, isn't the fair presumption that the same test under the supplemental contract would be made as was in the original contract, except so far as they have been modified by the supplemental contract?

Mr. CHAPMAN.—We think also that there is no evidence that any declaration Mr. Pederson could

(Testimony of C. A. Luckenbach.)

have made as to his understanding of what the contract was, governed the corporation. At any rate, there is no showing that he had authority to bind the company. He was a mere operating agent.

The COURT.—The objection is overruled. It is introduced solely for the purpose that I have intimated, and not for the purpose of showing any compliance by you with the conditions of the other contract. That would be wholly immaterial in this case.

(Letter introduced into and read in evidence and marked Plaintiff's Exhibit No. 8, and is as follows: [175]

**Plaintiff's Exhibit No. 8.**

HOTEL HAYWARD,  
Spring and Sixth Sts.,  
Los Angeles.

Los Angeles Gas and Electric Company,  
Los Angeles, California.

Gentlemen:—

Complying with your request that we make definite statement as to conditions obtaining at your gas-works, and our acceptance of these conditions as satisfactory in the making of a test of gas apparatus installed by us, we beg to make the following statement:

We have tested your water-gas station meter and it is, at the present time, correct, though we shall require the privilege of making tests from time to time if we deem it necessary.

The photometer is accurate and correct.

The apparatus and pipe-lines are so situated that they can be isolated, and while we cannot guarantee that this condition will remain, we feel satisfied that no one will interfere with their condition so as to divert the gas, and accept the condition as satisfactory. The same applies to the purifying and other piping around the works.

We have made tests of the 14 tons of carbon which you have set aside for our use, and find it contained less than 10 per cent moisture. We are making daily tests of such other carbon as you are supplying, and we shall notify you if any of it is above 10 per cent moisture.

We shall require in the operation water for the condenser, an amount sufficient to fill two 3-inch outlet pipes, or rather so much as two 3-inch outlet pipes will carry away under atmospheric pressure; ninety pounds of steam pressure will be sufficient at the operating floor; seventy pounds of oil will be required at the operating floor. [176] Provisions have been made for draining the water from the steam so that this will be furnished us in a satisfactory manner. Oil meters have been tested and found correct.

If any *any* time during the continuation of this test any operating condition is unsatisfactory, we shall at once verbally report this fact to your inspector in charge, and make note of such report on the operating reports. This report is signed by your inspector and our representative. Your own inspectors will presumably furnish you with written report of any complaints made, which will ac-

(Testimony of C. A. Luckenbach.)

quaint you with the fact that exception has been taken to some operating condition.

Trusting that this is satisfactory, we are

Yours truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY,

per B. S. PEDERSON, Agt. [177]

Mr. GOUDGE.—After that time, any test that was made of the plant was not deemed satisfactory. I think we can assume that as admitted in the case. That is true, is it not?

Mr. TRIPPET.—That is correct, yes.

Q. (By Mr. GOUDGE.) Coming now to the negotiations, if there were any, within your knowledge, which led up to the making of the supplemental contract,—you understand what I mean by the supplemental contract? I refer to the contract of July 12, 1909. You are familiar with that contract?

A. I am, yes, sir.

Q. State what, if any, negotiations you had knowledge of that took place between your company and The Western Gas Construction Company that led up to the making of that supplemental contract of July 12, 1909. With whom were they had, if with anyone?

A. I think the first steps leading up to that were begun approximately a year previous, or something in that neighborhood. Part of the negotiations were with Mr. Pederson and part of them direct with Fort Wayne. One if not two drafts of the supplemental contract were prepared by me and for-



(Testimony of C. A. Luckenbach.)

warded to Fort Wayne. I believe, if my recollection serves me correctly, the first one was forwarded to Fort Wayne to Mr. Pederson, and a form of supplemental contract was prepared by The Western Gas Construction Company and forwarded to Los Angeles for signature, but we could not agree upon the terms of it.

Q. Now, coming down to a time somewhere the time of the actual execution of the supplemental contract of July 12, 1909, what, if any, negotiations took place that you had knowledge of, and between whom?

A. I think at that time the negotiations were between Mr. Pederson and Mr. Trippet on the side of The Western Gas Construction Company, and Mr. Edwards and myself for the Los Angeles [178] Gas and Electric Corporation.

Q. By Mr. Trippet you mean one of the counsel for defendant? A. Yes, sir.

Q. And Mr. Edwards, my associate, one of counsel for plaintiff? A. Yes, sir.

Q. In those negotiations at which you were present, state if any references were made to the fuel that was to be used by the apparatus.

A. Yes, sir—

Mr. CHAPMAN.—Wait a minute, Mr. Luckenbach—all right.

A. Yes, sir; there was considerable discussion and talk about the fuel, among other conditions.

Q. State what was said and who was present at the time of the discussion of that subject, prior to

(Testimony of C. A. Luckenbach.)

and looking to the execution of this supplemental contract of July 12, 1909. By "that subject" I refer to the question of lamp-black. If that subject was referred to in the negotiations.

A. I have in mind one conference that took place in the office of Mr. Trippet in the Coulter Building, at which time Mr. Trippet, Mr. Pederson, Mr. Edwards and myself were present, and the general conditions surrounding the contract were discussed and the question of fuel, how it was to be handled, and the way it had been handled in the past, was generally discussed, with reference to the new contract. I couldn't be exact as to the date, but it was about a week previous to the execution of this contract of July 12—this supplemental contract.

Q. You say that at that conference the manner of handling the carbon was discussed?

A. Yes, sir; the conference was a general rehash of the claims of both sides. [179]

Q. Was the fuel that had been furnished mentioned or spoken of?      A. Yes, sir.

Q. What was it called, if you remember? What did you speak of it as?      A. As lamp-black.

Q. State, as far as you can state and as far as you can remember, what, if any, objections as to the character of the fuel that had been or was proposed to be furnished, were made by Mr. Pederson or Mr. Trippet, who were representing the Gas Construction Company, if any objections were made.

A. The only objection that I recall at the present time was with reference to the water—the quantity

(Testimony of C. A. Luckenbach.)

of water in the fuel at that time, and—yes, I think that was the only objection.

Q. (By the COURT.) What was the character of that lamp-black—its appearance as it issues as a by-product from the manufacture of gas from oil? A kind of soot, do you say?

A. It is a black, flaky substance in suspension in water as it comes from the wash-box.

Q. What is the wash-box?

A. The wash-box is a box in the oil gas set filled with water, to which the gas passes from the generator. It comes through from the generation of the gas.

Q. And is dropped where?

A. In the wash-box or seal of the oil-gas set.

Q. The mechanism is so arranged as to separate the lamp-black from the gas?

A. The lamp-black remains in suspension, or a very large part of it, in the water.

Q. And the gas passes over the water?

A. Yes, it bubbles up through the water.

Q. And this lamp-black is left on the surface of the water? [180]

A. Yes, sir; in the water, and the overflow from the wash-box carries it off into a receptacle, and from there it goes off into a big flume and into the settling pits.

Q. Where it dries out the water, as far as it can, or as far as you desire?

A. Yes, sir, as far as we can.

Q. What state do you find it in after the water

(Testimony of C. A. Luckenbach.)

has been separated from it?

A. As it leaves this receptacle it is in suspension in the water. Possibly two per cent of the solution is carbon in suspension. When it has been in the pits a period of a week, there is about sixty per cent of the moisture in the solution driven off.

Q. How is the moisture driven from the solution? By pressure?

A. No, sir; the surplus water is taken away by—it is taken away by the difference in specific gravity of the two. The clear water runs over and runs off and leaves the carbon with a certain amount of moisture still in it.

Q. And there is no mechanical means adopted to still further exclude the water?

A. We have a means now of doing that, but we hadn't at that time.

Q. What means have you now?

A. We have a separator known as an Oliver separator, by which we draw the water off by suction—a great percentage of the water. That draws the carbon to a wheel covered by canvas, and as it revolves, when the wheel leaves the water—the body of the water—there is a suction drawing the moisture out till it gets pretty well over the center, when the carbon is scraped off of this wheel.

Q. (By Mr. GOUDGE.) At the time covered by this contract, [181] the carbon or lamp-black was settled in pits? A. Yes, sir.

Q. Was it left there to dry?

A. It was left there till a certain percentage of

(Testimony of C. A. Luckenbach.)

the moisture was withdrawn.

Q. Is that the pit you refer to, or the condition of the carbon or lamp-black referred to in one of the letters, where you say you would take that in lumps and put it in the generators?

A. We would take it out of the pits and put it in the generators, or put it onto a big pile where it is allowed to sun-dry; and at times it has been treated to exhaust the moisture so that it got dry enough to harden into lumps.

Q. You have described the manner in which the carbon or lamp-black is separated from the water through which the gas is washed, and that it dries and partially, at least, solidifies. In some of the correspondence already introduced in evidence, reference is made to bricks. Will you explain what that means, or whether anything was done to this lamp-black or carbon during the times covered by this contract, to put it in any other shape than this crude shape of drying in pits or piles that you have already discussed?

A. Yes, sir. The carbon, or a great amount of the carbon, was dried through a drier and made into briquets or bricks, and some of the carbon as it came from the piles was made into bricks.

Q. In what manner would it be made into bricks?

A. We used a regular standard brick machine for the manufacture of bricks, and the carbon was put into the hopper of the machine and it fell into the moulds, and the dies pressed it into a brick form.

Q. Was there cement used in making the bricks?



(Testimony of C. A. Luckenbach.)

A. No, sir; none except what was inherent in the carbon itself. [182]

Q. And the bricks were made by pressure simply?

A. By pressure, yes, sir.

Q. I call your attention to this document and ask you to say what it is.

A. It is a letter addressed to myself by Mr. Pederson for The Western Gas Construction Company, dated July 30, 1909.

Q. And received by you at about that time?

A. Received by me then, yes.

Mr. GOUDGE.—We offer this in evidence if the Court please.

Mr. TRIPPET.—Go ahead and introduce it.

(Said letter was introduced into and read in evidence, marked Plaintiff's Exhibit No. 9, and is as follows:.) [183]

**Plaintiff's Exhibit No. 9.**

HOTEL HAYWARD,

Spring and Sixth Sts.,

Los Angeles.

Los Angeles, Cal., July 30, '09.

Mr. C. A. Luckenbach,

Los Angeles, California.

Dear Sir:—

In reply to your letter will state that we expect to be able to determine what changes will be necessary by the end of next week, or August 7, '09.

We shall require in the neighborhood of 3000 tons of carbon fuel for our run and tests, and the total time required about four months, providing no un-

(Testimony of C. A. Luckenbach.)

forseen complications arise.

The time of reconstruction lies largely with the local boiler works, and until this work is determined it is merely a case as to the time required for that work. As soon as possible we shall give you more definite information on this subject.

Very truly yours,

THE WESTERN GAS CONSTRUCTION  
COMPANY,

B. S. PEDERSON, Agt. [184]

Q. (By Mr. GOUDGE.) Can you identify this document and state what it is?

A. This is a letter addressed by me to the Western Gas Construction Company, under date August 23, 1909, and mailed by me.

Q. This is a carbon copy of the letter?

A. Yes, sir.

Mr. GOUDGE.—No objection on account of its being a copy, I understand?

Mr. CHAPMAN.—No.

Mr. GOUDGE.—We offer this in evidence.

(Letter read in evidence and marked Plaintiff's Exhibit No. 10, and is as follows:) [185]

**Plaintiff's Exhibit No. 10.**

August 23, 1909.

19-w

The Western Gas Construction Co.,

B. S. Pederson, Agent,

589 Howard Street, San Francisco, Cal.

Gentlemen:—

Upon my return from my vacation, I find that you

(Testimony of C. A. Luckenbach.)

completed the preliminary test of the water-gas set on the morning of August 14th, 1909, and that you advised our superintendent that it would be in the neighborhood of four months before you would make another test. I have no word from you in reference to this matter. Will you please advise me in writing at the earliest possible moment as to your probable future action in this matter, and the time which you estimate will be necessary for the various steps you propose taking.

Yours respectfully,

LOS ANGELES GAS AND ELECTRIC  
CORPORATION,

By C. A. LUCKENBACH,

Manager of Construction.

c. c. P. A. [186]

Q. (By Mr. GOUDGE.) State what that document is, if you know.

A. This is a letter from Mr. Pederson addressed to myself, under date August 27, 1909, received and filed by me.

Mr. GOUDGE.—We offer this in evidence.

(Letter dated San Francisco, California, August 27, 1909, read in evidence and marked Plaintiff's Exhibit No. 11, and is as follows:) [187]

**Plaintiff's Exhibit No. 11.**

THE WESTERN GAS CONSTRUCTION COM-  
PANY,

Gas Engineers.

Fort Wayne, Indiana.

San Francisco, Cal., August 27, 1909.

Mr. C. A. Luckenbach, Manager of Construction,  
Los Angeles Gas and Electric Corporation,  
Los Angeles, Cal.

Dear Sir:—

Your letter of the 23d received. Will state that we have received figures on the reconstruction of the work and the entire matter has been forwarded to Fort Wayne, where working plans are being prepared. As soon as the plans are ready, they will be forwarded to Los Angeles, and the work contracted for on a basis of immediate commencement. I wrote you some time prior to the finish of the preliminary test, giving you estimate of time which I thought necessary to complete the work. It will take some little time to get the castings from Fort Wayne, and to do the necessary brick work after the changes have been made in the generator shell so that the estimate of four months, I would state, is about as near as we can approximate at this time. We hope, of course, to be finished at an earlier period, but would not care to definitely state at what time we can finish, as so many contingencies arise

(Testimony of C. A. Luckenbach.)

that might interfere with the delivery of the work within that time.

Very truly yours,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

Per B. S. PEDERSON.

BSP#H [188]

Q. What is this document that I hand you?

A. This is a letter from Mr. Pederson addressed to Mr. F. G. Millard, who was at that time superintendent of gas manufacture, under date August 20, 1909, and by him delivered to me.

Q. When you say "superintendent of gas manufacture," of what company?

A. Of the Los Angeles Gas and Electric Company.

Mr. GOUDGE.—We offer this in evidence.

(Letter read in evidence and marked Plaintiff's Exhibit No. 12, and is as follows:) [189]

**Plaintiff's Exhibit No. 12.**

THE WESTERN GAS CONSTRUCTION COM-  
PANY,

Gas Engineers.

Fort Wayne, Indiana.

San Francisco, Cal., August 20, 1909.

Mr. F. C. Millard, Supt.,

Los Angeles Gas and Electric Company,

Los Angeles, California.

Dear Sir:—

Your letter of the 18th instant received, and I am afraid it came too late for my reply to reach you



(Testimony of C. A. Luckenbach.)

before you started on your vacation, my understanding being that you were to start on the 20th.

I finished the preliminary test on the apparatus last Saturday, and notified the Fort Wayne office to that effect. Up to the present time, I have received no word from them, and presume, therefore, that my work was satisfactory, and that we will proceed immediately with the reconstruction of the water gas generator. The Baker Iron Works disappointed us in the matter of putting in a bid, as I today received a letter from them stating that they were unable to handle this work for us. I have been expecting to receive official bids from Darby and Ward, confirming their verbal bid on the work, when we shall give them orders to proceed, and we expect to be ready to start up within 90 or 100 days from the time the reconstruction is begun.

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

Per B. S. PEDERSON. [190]

Q. (By Mr. GOUDGE.) I call your attention to some pencil writing at the bottom left-hand corner. Was that part of the letter?

A. No, sir. It is an endorsement made there in my own handwriting.

Mr. GOUDGE.—We do not desire to have that included in the offer.

Q. I ask you to identify, if you can, this document, and state what it is.

A. A letter under date September 8, 1909, ad-

(Testimony of C. A. Luckenbach.)

dressed to myself by Mr. Guldlin of The Western Gas Construction Company.

Mr. GOUDGE.—I offer this letter in evidence.

(Letter read in evidence and marked Plaintiff's Exhibit No. 13, and is as follows:) [191]

**Plaintiff's Exhibit No. 13.**

THE WESTERN GAS CONSTRUCTION COM-  
PANY,  
Gas Engineers,  
Fort Wayne, Indiana.

September 18, 1909.

C. A. Luckenbach, Manager of Construction,  
Los Angeles Gas and Electric Company,  
Los Angeles, California.

Dear Sir:—

Your letter of the 13th just received, and I have wired you as per enclosed confirmation, that you may know everything is being rushed from this end, consistent with safety of construction.

We find it necessary to prepare several detail drawings for the reconstruction of this generator, as we wanted everything incorporated that would make the plant a first-class one, and inasmuch as the reconstruction of the shell work will be done by the Western Boiler Works, we do not want to take any chances of our idea being misunderstood, or that anything might be omitted, which in our judgment is required for first-class shop work. Acceptance of the proposition was forwarded direct to the Western Boiler Works, on the 13th, and detail drawings

were forwarded to Mr. Pederson on the 14th, with instructions that he, after having examined same, would immediately forward to the Western Boiler Works, with instructions to go ahead without delay.

The castings required are being made in our works, and we expect to be able to give you shipping date the early part of next week, which will cover not only the special castings but also the new reverse valve. All these details should reach the Western Boiler Works in ample time for their progress with the work. We also found it necessary to make some special moulds for the tiles to fit the generator construction. These have also been designed and orders placed with [192] the Fire Brick Company in St. Louis, and will be on the ground when required.

In conclusion, we can assure you that everything will be done to now rush the work on the design, the details of which necessarily take time to complete. The last experimental operation under Mr. Pederson's direct supervision was of the utmost importance to us, definitely settling several features of which we were not entirely satisfied before, as to general results. It has been a long drawn out battle, but in conclusion assure you that I am now more than ever convinced of ultimate success, and I am extremely anxious that this shall be reached with the

(Testimony of C. A. Luckenbach.)

least possible delay.

With kindest personal regards, I remain,  
Yours very truly,

O. N. GULDLIN,  
President.

Encl.

c-p

S

[193]

Q. (By Mr. GOUDGE.) Will you state what this document is, if you know.

A. It is a communication dated December 13, 1909, addressed to the Los Angeles Gas and Electric Corporation by E. C. White, representative of the Western Gas Construction Company, and was delivered during my absence to—I have been told—to Mr. Vance. It was given to me upon my return to the office by Mr. Vance.

Mr. GOUDGE.—I suppose it will be conceded that this letter was signed by Mr. E. C. White?

Mr. TRIPPET.—Yes.

Mr. GOUDGE.—And further, will you stipulate who Mr. E. C. White was?

Mr. CHAPMAN.—Yes, sir; he was one of the operators in charge of the apparatus during the preliminary tests, and also during the final test.

Mr. GOUDGE.—I offer this letter in evidence, and I will read it.

(Letter read in evidence and the same is marked Plaintiff's Exhibit No. 14, and is as follows:) [194]

**Plaintiff's Exhibit No. 14.**

Los Angeles, Cal., December 13, 1909.

Los Angeles Gas and Electric Corporation,  
645 So. Hill Street,  
City.

Gentlemen:—

We would prefer, if agreeable to you, that you furnish us the fuel bricks for the new machine which we have installed, containing say from 16 per cent to 25 per cent moisture, instead of 10 per cent, as formerly, similar to the fuel bricks you are now using in your machine.

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

By E. C. WHITE. [195]

Q. (By Mr. GOUDGE.) What is this document?

A. This is a letter addressed to me by Mr. Pederson under date December 28, 1909, and received by me.

Mr. GOUDGE.—We offer this letter in evidence.

(Letter read in evidence and the same is marked Plaintiff's Exhibit No. 15, and is as follows:) [196]

**Plaintiff's Exhibit No. 15.**

Los Angeles, Cal., December 28th, 1909.

Mr. C. A. Luckenbach, Manager of Construction,  
Los Angeles Gas and Electric Corporation,  
Los Angeles, Cal.

Dear Sir:—

In confirmation of our conversation this morning, I beg to state that we desire to withdraw our letter of December 13th in reference to fuel to be used during



(Testimony of C. A. Luckenbach.)

the test of the water-gas apparatus now being installed by us. The fuel that you have on hand at present will be satisfactory, but we feel that it must be protected from additional moisture, and would ask that you protect the fuel that you have ready for us from rain and other moisture that may be precipitated upon it.

Yours respectfully,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

By B. S. PEDERSON, Agt. [197]

Q. (By Mr. GOUDGE.) This letter says, Mr. Pederson speaking, "In confirmation of our conversation this morning, I beg to say that we desire to withdraw our letter." Do you recall any conversation with him?

A. We had a conversation that morning with reference to the moisture in the bricks.

Q. Where did it occur?

A. I won't be absolutely positive, but to the best of my recollection it was at my office.

Q. And who, if anyone else, was present?

A. I don't recall that anyone else was present.

Q. What was said about the fuel or subject-matter of this letter?

A. Practically the same as stated in this letter. Mr. Pederson didn't want the fuel with as much moisture in as Mr. White had wanted, and that the fuel down there was satisfactory, but that he desired to have it protected from any further moisture or absorption.

(Testimony of C. A. Luckenbach.)

Q. What, if anything, did you do with reference to that request to protect the fuel that you had on hand from rain or other moisture?

A. I gave instructions immediately to have it fully covered with tarpaulin, galvanized iron, or other material that might be necessary to keep it from exposure to rain.

Q. You say you gave instructions to have that done. Was it done? A. It was.

Q. I ask you to state what that document is.

A. It is a letter addressed to the Los Angeles Gas and Electric Corporation by Mr. E. C. White of The Western Gas Construction Company, February 28, 1910, and delivered to me.

Q. What is this other document? [198]

A. A letter dated February 28th, 1910, from Mr. White of The Western Gas Construction Company, addressed to the Los Angeles Gas and Electric Corporation, and delivered to me.

Mr. GOUDGE.—We offer these two letters as one exhibit, both bearing the same date, and both signed by E. C. White.

(Reads said two letters in evidence. Said letters are marked Plaintiff's Exhibit 16, and are as follows:) [199]

**Plaintiff's Exhibit No. 16-A.**

Los Angeles, Cal., February 28, 1910.

Los Angeles Gas and Electric Corporation,  
Los Angeles,  
California.

Gentlemen:—

Attention Mr. Luckenbach.

Further, in reference to your letter of February 25th and mine of even date herewith:

We hereby notify you that we will, on the morning of March 10th, 1910, at 6 o'clock A. M., begin the final twenty-day test of the water-gas set now at your plant, as provided for in the contract between your company and the Western Gas Construction Company, dated July 12th, 1909. Between this date and the morning of March 10th, 1910, we will not require carbon of any specific amount of moisture, but in operating the set will use the ordinary run of brick.

Yours respectfully,

E. C. WHITE,

For Western Gas Construction Company. [200]

**Plaintiff's Exhibit No. 16-B.**

Los Angeles, Cal., February 28, 1910.

Los Angeles Gas and Electric Corporation,  
Los Angeles, California.

Dear Sirs:—

Attention Mr. Luckenbach.

Further in reference to your letter to me of February 25th, I would beg to state that the chief engineer at the gas works raised the speed of the engine this morning, and increased the pressure to a satisfactory

(Testimony of C. A. Luckenbach.)

degree. It was my intention to go on with the test tomorrow morning, but we find that the carburatter has a coating over the top of it which it is essential to remove in order to get efficiency. Since perforating the back of the shoots, we get a large amount of fine stuff out before it reaches the mouth piece of the generator. This condition has materially increased the efficiency of the fire, and for the two days operating since perforating the shoots the fire has built up.

Our company is desirous of having Mr. Pederson here during the test, but unfortunately he is north. He will be back on the 8th, and I ask you to give us until the 10th of March to start the test, promising you that we will positively start on that date, and that if Mr. Pederson returns earlier we will start before that date. Can notify him at once.

I trust that you will grant us this favor, and awaiting your reply, I am

Yours very truly,

E. C. WHITE,

For Western Gas Construction Co. [201]

Mr. CHAPMAN.—We don't seem to have the original of that other letter referred to, in court. And if you intend to introduce it, you might use a copy.

Mr. GOUDGE.—In deference to counsel's desire, we will introduce this letter.

Q. (By Mr. GOUDGE.) Will you state what that document is?

A. It is a letter dated February 25th, 1910, addressed by myself to Mr. White as representative of The Western Gas Construction Company and deliv-

(Testimony of C. A. Luckenbach.)

ered to him. It is a copy of the original.

Mr. GOUDGE.—No objection is made to it on the ground that it is a copy?

Mr. CHAPMAN.—No, sir.

Mr. GOUDGE.—We offer this in evidence.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 17, and is as follows:) [202]

**Plaintiff's Exhibit No. 17.**

February 25, 1910.

19—w

Mr. E. C. White,

Representative of Western Gas Construction  
Co., City.

Dear Sir:—

On the 24th day of January, 1910, you informed us that you would commence the final test of your water-gas apparatus the next day. Owing to the injury to our blast line, and the accident to your apparatus, the commencement of the test was delayed several days while you made the necessary repairs and again put the apparatus in condition for the continuation of the test. Since getting your apparatus in condition for the test, we do not feel that you have pushed the test with the reasonable expedition required by the contract. We therefore insist that you continue the final test of the apparatus on March 1st, 1910 and prosecute the same with all reasonable diligence and strictly in accordance with the contract. In the operation of your machine, at all times it must be understood that we will hold the Western Gas Con-



(Testimony of C. A. Luckenbach.)

struction Company strictly responsible for any and all damage to our property which may be caused through any explosion of or accident to your apparatus.

Yours respectfully,  
LOS ANGELES GAS AND ELECTRIC  
CORPORATION.

By C. A. LUCKENBACH,  
Manager of Construction.

Approved as to form:

L. M. EDWARDS,  
Asst. General Counsel. [203]

Q. Can you state what this document is?

A. This is under date of February 28th, 1910, addressed by me to The Western Gas Construction Company, Mr. White, Agent, and delivered to him. This is a copy.

Mr. GOUDGE.—We offer this in evidence on the understanding that there is no objection on the ground that it is a copy.

(Said letter is read in evidence and is marked Plaintiff's Exhibit No. 18, and is as follows:) [204]

**Plaintiff's Exhibit No. 18.**

February 28th, 1910.  
19-w

Western Gas Construction Company,  
E. C. White, Agent,  
City.

Dear Sir:—

Referring to your communication of February 25th, and also to your several communications of the

(Testimony of C. A. Luckenbach.)

28th instant, I take leave to advise you that owing to your positive statement and your notification that you will on the morning of March 10th, 1910, at 6 o'clock A. M. begin the final 20-day test of your water-gas set now at our plant, as provided for in the contract between this company and the Western Gas Construction Company, dated July 12th, 1909, we withdraw our demand that such test shall begin on the morning of March 1st, 1910, at 6 o'clock A. M., but not at any later date than March 10th, 1910.

Yours respectfully,

LOS ANGELES GAS AND ELECTRIC  
CORPORATION.

By C. A. LUCKENBACH,  
Manager of Construction.

Approved as to form:

WM. A. CHENEY,  
General Counsel. [205]

Q. (By Mr. GOUDGE.) When and on what date did The Western Gas Construction Company cease operating the set subsequent to March 10, 1910?

A. At six o'clock on the morning of March 30, 1910.

Q. Then, the test began at six o'clock in the morning of March 10 and the operations ceased at 6 o'clock in the morning of March 30, is that right?

A. Yes, sir.

Q. Subsequent to six o'clock in the morning of March 30, was that set operated at any time?

A. No, sir.

Q. Was the result or performance by and under this test or the operation of this set during the period

(Testimony of C. A. Luckenbach.)

from March 10 to March 30, 1910, satisfactory to your company?

Mr. TRIPPET.—We object to that as immaterial, whether it was satisfactory or not.

The COURT.—The objection is sustained.

Plaintiff excepted to the ruling of the Court.

(Q. (By Mr. GOUDGE.) I call your attention to this document and ask you to state what it is, if you know.

A. It is a letter dated April 5th, 1910, and addressed to The Western Gas Construction Company—a copy of a letter from me to The Western Gas Construction Company—under date April 5, 1910.

Q. Written by you and mailed to them?

A. Written and signed by me and mailed to them.

Mr. GOUDGE.—Any objection to this?

Mr. CHAPMAN.—No.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 19, and is as follows:) [206]

**Plaintiff's Exhibit No. 19.**

April 5th, 1910.

Western Gas Construction Company,  
Fort Wayne, Indiana.

Gentlemen:—

Under our contract of July 12th, 1909, with you, it was agreed that if you did not bring your water-gas apparatus installed at our plant up to the contract requirements set forth in section three thereof, that you would immediately return to us the money heretofore advanced to you by us on this set, to wit, \$26,-

823.45, and that you would remove your apparatus at once from our premises without cost to us.

From March 10th to March 30th, 1910, you performed your final test of your apparatus as provided in the aforesaid contract, and now that said test is completed and you have failed to bring your apparatus up to the contract requirements therein stated, we ask that you perform your part under section three of said contract by returning the sum of \$26,823.45 to us, and remove your apparatus from our premises at once, and without cost to us.

You have had every opportunity to bring your apparatus up to the contract requirements and we do not think that anything could be gained by commencing another test as suggested in your letter of April 2, 1910, as it would be but a repetition of futile attempts.

Further as a result of the test which you have made, your apparatus, with which you made the test, is in a dilapidated and unfit condition.

Yours respectfully,

LOS ANGELES GAS AND ELECTRIC  
CORPORATION.

By C. A. LUCKENBACH,  
Manager of Construction.

Attention:

Mr. WHITE,  
Representative.

Mr. PEDERSON,  
Pacific Coast Representative.

Approved as to form:

L. M. EDWARDS,  
Asst. General Counsel. [207]

(Testimony of C. A. Luckenbach.)

Q. (By Mr. GOUDGE.) I ask you to identify this document.

A. This is a letter addressed to The Western Gas Construction Company under date April 8th—it is a copy of a letter addressed to The Western Gas Construction Company under date April 8th, 1910, signed by myself as manager of Construction and R. M. Adams, Secretary.

Mr. GOUDGE.—We offer this copy of the letter in evidence on the understanding that no objection is made on account of its being a copy.

(Said letter is read in evidence and the same is marked Plaintiff's Exhibit No. 20, and is as follows:)

[208]

**Plaintiff's Exhibit No. 20.**

April 8th, 1910.

19-w

The Western Gas Construction Company,  
Fort Wayne, Indiana.

Gentlemen:—

Under and by virtue of our contract with you, dated July 12th, 1909, which you have failed to perform, we herewith demand that you immediately return to us the sum of \$26,823.45, and that you at once remove your water-gas apparatus from our premises at your own cost and expense.



(Testimony of C. A. Luckenbach.)

We hereby further notify you that we will not be responsible for any damage or injury which may happen to our apparatus from henceforth.

Yours respectfully,

LOS ANGELES GAS AND ELECTRIC  
CORPORATION.

By C. A. LUCKENBACH,

Manager of Construction.

By R. M. ADAMS,

Secretary.

Mr. E. C. WHITE, Representative.

Mr. B. S. PEDERSON,

Pacific Coast Representative.

Approved as to form:

L. M. EDWARDS,

Asst. General Counsel. [209]

Q. State what this document is.

A. It is a letter addressed to the Los Angeles Gas and Electric Corporation, my attention, from E. C. White, received by me April 9, 1910.

Mr. GOUDGE.—I offer that in evidence.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 21, and is as follows:) [210]

**Plaintiff's Exhibit No. 21.**

Los, Angeles, Cal., April 9th, 1910.

Los Angeles Gas and Electric Corporation,

Los Angeles, Cal.

Gentlemen:—

Attention Mr. C. A. Luckenbach.

I have your letter of April 8th, demanding

(Testimony of C. A. Luckenbach.)

immediate return of \$26,823.45, and that we at once remove water-gas apparatus. I note at the bottom of letter you instructed copy to be sent to B. S. Pederson, Coast Representative, but made no mention of a copy to our home office, Fort Wayne, consequently I am sending them your letter and keeping a copy for my files. You will hear from them in due time.

Yours truly,

E. C. WHITE.

Received April 9th, 1910.

C. A. LUCKENBACH,

Manager of Construction. [211]

Q. (By Mr. GOUDGE.) State what this document is.

A. It is a letter under date April 13, 1910, from The Western Gas Construction Company, addressed to the Los Angeles Gas and Electric Corporation, and received by me on April 18, 1910.

Mr. GOUDGE.—We offer this letter in evidence.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 22, and is as follows:) [212]

**Plaintiff's Exhibit No. 22.**

THE WESTERN GAS CONSTRUCTION COM-  
PANY,

Gas Engineers.

Fort Wayne, Indiana.

April 13th, 1910.

Los Angeles Gas and Electric Corporation,

Los Angeles,

California.

Gentlemen:—

Attention Mr. C. A. Luckenbach, Mgr. Con.

We are in receipt of your communication of April 5 and April 8, respectively, both on the subject of our contract with you, dated July 12th, 1909, and this letter is written to acknowledge such receipt.

Owing to the absence from this city of Mr. O. N. Guldlin, President of this company, it will be impossible to make a definite reply to your letters mentioned above, but upon his return the early part of next week these letters will be brought to his attention and you will undoubtedly receive a further communication from him.

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

O. O. TWING,

Chief Engineer.

Received April 18, 1910.

C. A. LUCKENBACH,

Manager of Construction. [213]

Q. (By Mr. GOUDGE.) State what this is.

(Testimony of C. A. Luckenbach.)

A. This is a communication from the Western Gas Construction Company under date May 10, 1910, addressed to the Los Angeles Gas and Electric Corporation and received by me on May 17, 1910.

Mr. GOUDGE.—We offer this letter in evidence.

(Said letter is read in evidence by Mr. Goudge and the same is marked Plaintiff's Exhibit No. 23, and is as follows:) [214]

**Plaintiff's Exhibit No. 23.**

THE WESTERN GAS CONSTRUCTION COM-  
PANY,

Gas Engineers.

Fort Wayne, Indiana.

May 10th, 1910.

Los Angeles Gas and Electric Corporation,

Los Angeles, Cal.

Gentlemen:—

Replying to your No. 19 April 8th; also yours of April 5th, to the Western Gas Construction Company.

With the daily operating reports of the test, and further explanations of the conditions presented during such test, now finally and fully confirmed by our Mr. Pederson and Mr. White, you are hereby informed by the Western Gas Construction Company that the said Western Gas Construction Company claim and maintain that they have fully performed the contract of July 12, 1909, and the apparatus constructed by virtue of said contract has fully performed the guarantees therein contained; and that

(Testimony of C. A. Luckenbach.)

your company committed various breaches of said contract at various times, repeatedly called to your attention from time to time. Said Western Gas Construction Company will not return the money mentioned in your contract, but do claim that the sum of \$8870.55 is due by virtue of the performance of said contract, in addition to the \$26,823.45 previously received under the contract. That said Western Gas Construction Company will not remove said apparatus and maintain that the same belongs to you.

Yours very truly,

WESTERN GAS CONSTRUCTION COMPANY.

O. N. GULDIN, President. [215]

Q. (By Mr. GOUDGE.) Now, during the period from March 10 to March 30, what, if any, complaints were made by any representative of The Western Gas Construction Company to your company as far as you know, concerning breaches of the contract or alleged breaches of the contract committed by the Los Angeles Gas and Electric Company or the Los Angeles Gas and Electric Corporation?

A. I recall two at the present time. One was—I was trying to recall the dates, but I cannot do it without referring to my correspondence. They were both in reference to carbon or lamp-black.

Q. Do you mean that they were in writing?

A. I believe that one was in writing. I won't say positively that both were.

Q. (By the COURT.) What other name did you give to that substance? A. Lamp-black or carbon.

Q. (By Mr. GOUDGE.) You say one was in



(Testimony of C. A. Luckenbach.)

writing? A. That is my recollection.

Q. Was there any other complaint other than the one in writing? A. I believe there was, yes.

Q. What was that, who made it and when?

A. They were both from Mr. White. I cannot tell the exact dates. I have memorandum in my file which would give me the exact dates and circumstances.

Q. Are those filed here? A. They are, yes.

Q. I call your attention to this document.

A. This is one of the letters, dated March 18, 1910, by The Western Gas Construction Company, Mr. White, agent.

Q. It is one of the two complaints that you referred to? [216] A. It is, yes, sir.

Mr. GOUDGE.—We offer this letter in evidence.

Mr. CHAPMAN.—No objection.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 24, and is as follows:) [217]

**Plaintiff's Exhibit No. 24.**

Los Angeles, Cal., March 18, 1910.

L. A. Gas and Electric Corporation,

Los Angeles, Cal.

Dear Sirs:—

Attention Mr. Luckenbach.

We must protest at the character of fuel which you delivered to us yesterday, and which is being hauled this morning. The bricks crumble and break all to pieces in going down the *shoot*, —to confirm this statement you will only have to look at the report

for fine carbon returned or credited to us yesterday. Ordinarily after each charge there were about three wheel-barrow loads of fine stuff on the floor which had dropped from the *shoots*. Yesterday there were from 8 to 11 wheel-barrow loads after each charging. It is evident that the process which you use in drying out these bricks has had a tendency to disintegrate them. Previously, although they were dry, as analysis showed, they held together as well as any of the bricks containing a larger percentage of moisture. But these kiln-dried bricks have not enough tensile strength to keep them from going to pieces, and powdering up. We demonstrated by the first two days operation that the machine could make from 2,400,000 to 2,700,000 feet per diem; and if the carbon would hold together as well as the carbon used at that time we could undoubtedly do better than we did on the days we made between 2,400,000 and 2,700,000, but it is unreasonable to suppose that we can operate the machine on fuel containing such a large percentage of fine carbon, which is not only worthless but a detriment. It looks bright enough from the top charging floor but as soon as the steam strikes it it kills is. Just as well pour in so much sand and expect to make gas. [218]

We made yesterday only 2,166,000 feet. If the carbon continues to be no better than it was yesterday and this morning, I doubt very much if we can even make 2,000,000 feet today and the following days.

If you can give us a grade of fuel similar to what we have previously had, we can undoubtedly work

(Testimony of C. A. Luckenbach.)

the fine stuff out and build up the fire again, but if the carbon continues to be as bad as above stated we cannot expect to obtain efficiency.

We have rechecked the carburetter, and are now positive that it is none other than the dirty fuel which gave us the poor results obtained yesterday.

Yours very truly,

WESTERN GAS CONSTRUCTION COMPANY.

By E. C. WHITE. [219]

Q. (By Mr. GOUDGE.) I show you this document and ask you to state what it is.

A. That is a letter addressed to me by Mr. White—a copy of a letter addressed to me by the Western Gas Construction Company, Mr. White, representative, on the 18th of March, 1910.

Mr. GOUDGE.—We offer this copy of a letter in evidence, there being no objection on the ground that it is a copy and not the original.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 25, and is as follows:) [220]

**Plaintiff's Exhibit No. 25.**

March 18, 1910.

19-w

Western Gas Construction Company,  
Mr. E. C. White, Representative,  
City.

Dear Sir:—

Acknowledging receipt of yours of the 18th instant, we beg leave to reply that we are furnishing you lamp

black fuel containing not more than 10 per cent moisture, and the said fuel we are furnishing you is in every respect strictly in accordance with the terms and conditions of our contract. You have in the past specifically demanded that the fuel furnished to you should comply strictly with the terms of the contract, and in order to comply with your request and to perform our contract in every detail, we have at a great expense and inconvenience to ourselves taken the precaution to see that every pound of lamp black delivered to you contains not more than ten per cent of moisture, and every pound of lamp black delivered to you in this test has been absolutely in accordance with the terms of our contract. Your request at this time that the lamp black furnished to you be furnished in the form of bricks which cannot be broken is unreasonable and not in accordance with our contract requirements. We call your attention to the contract which simply requires that the fuel furnished by us be "dry lamp black containing not more than 10 per cent moisture" and in no place does the contract require us to furnish you lamp black in the shape of bricks or in any consealed form whatsoever. At the times when we have furnished you lamp black in the form of bricks, it was because it happened to be convenient at that time to deliver the fuel in that form, but the contract does not require them to furnish the fuel in the form of bricks or in any given form, certainly does not require [221] us to furnish the fuel in the form of bricks of such unusual properties as you suggest. Such was never contracted for or contemplated between the parties.

(Testimony of C. A. Luckenbach.)

If your set will not make the quality and quantity of gas with the fuel economies provided for in the contract, such failure is certainly due to an inherent defect in the set itself and not in the quality of the fuel furnished you.

Yours respectfully,

LOS ANGELES GAS AND ELECTRIC  
CORPORATION.

By C. A. LUCKENBACH,  
Manager of Construction.

Approved as to form:

L. M. EDWARDS,

Asst. General Counsel. [222]

Q. (By Mr. GOUDGE.)—Will you state what that document is?

A. This is the second kick which I referred to as coming from Mr. White. It is a letter dated March 23d, 1910, addressed to the company, and signed by Mr. White, and received by me on the 23d of March, 1910, in the morning.

Mr. GOUDGE.—We offer this letter in evidence.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 26 and is as follows:) [223]

**Plaintiff's Exhibit No. 26.**

Los Angeles, Cal., March 23, 1910.

Los Angeles Gas and Electric Corporation,

Los Angeles, Cal.

Dear Sirs:—

Attention Mr. Luckenbach.

We are again forced to protest against the



character of briquettes you furnished us yesterday, and are providing us with today. The bricks are the worst for breaking up that we have ever had. I noticed this morning that they are still hot from the fires you built to dry them out. I call your attention to the fact that last night after two charges the men wheeled away from under the chutes seven and eight wheel-barrow loads, respectively; this morning twenty-three. After the first charge they wheeled away eight wheel-barrow loads,—about 300 pound each, and after the second charge, they wheeled out 12 wheel-barrow loads, or about 3600 pounds. A great deal of the fine stuff handled went into the fire, as the large bricks pushed it along over the screen—the carbon going in as rapidly as it does. The result of last night's make shows clearly the result of dirty fire. Have made 100,000 feet less last night than the machine made the twelve hours preceding yesterday, a total of 2,074,000 for the day as against 2,171,000 the day before, or on March 21. You can readily understand that it would not be considered possible for the machine to make gas advantageously where fuel of this character is being introduced. Might as well expect a water-gas set using coal to make gas and keep up the standard if breeze is substituted instead of coal.

I have your letter of the 18th, and note your remarks regarding the character of the carbon to be furnished, etc. Will not go into this matter, as I have not the data to [224] discuss the question. However, I have been under the impression that your company was to co-operate with us in every way to

(Testimony of C. A. Luckenbach.)

bring about the successful operation of this machine; but it would seem impossible if we were to meet the guarantee using the character of fuel furnished.

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

By E. C. WHITE.

Received March 23, 1910.

C. A. LUCKENBACH,

Manager of Construction. [225]

Q. (By Mr. GOUDGE.) I ask you to state what that document is.

A. A copy of a letter addressed by me to The Western Gas Construction Company, under date March 23, 1910.

Mr. GOUDGE.—We offer it in evidence, there being no objection on the ground of its being a copy.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 27, and is as follows:) [226]

**Plaintiff's Exhibit No. 27.**

March 23, 1910.

19-w

The Western Gas Construction Company,  
Mr. E. C. White, Representative,  
City.

Dear Sir:—

Replying to yours of the 23rd instant, beg leave to say that an answer to this communication is contained in our letter of the 18th instant, receipt of

(Testimony of C. A. Luckenbach.)

which you have acknowledged.

Yours respectfully,

LOS ANGELES GAS AND ELECTRIC  
CORPORATION.

By C. A. LUCKENBACH,  
Manager of Construction.

Approved as to form:

L. M. EDWARDS,

Assist. General Counsel. [227]

Q. (By Mr. GOUDGE.) Mr. Luckenbach, in addition to these two complaints of March 18 and March 23 that have been introduced in evidence, did you have any conversation or interview with anyone representing The Western Gas Construction Company on the subject of these letters, or either of them? A. I did.

Q. State when it occurred and who was present and where.

A. On the 18th of March upon receipt of the communication from Mr. White, in connection with Mr. Edwards, your associate, I went to the gas works and saw Mr. White, in presence of Mr. Edwards, Mr. Millard, who was then superintendent of gas manufacture at the gas works, and Mr. Young, who was then the inspector of operations and is now superintendent—

Q. For what company?

A. The Los Angeles Gas and Electric Corporation. Mr. Edwards asked Mr. White the direct question as to whether the bricks were satisfactory, and he said they were. He asked whether the bricks were deliv-

(Testimony of C. A. Luckenbach.)

ered to him in a satisfactory condition, and he said that they were; that the breaking up which he complained of occurred in the hoist and in the chute.

Q. Did you at that time make any memorandum of the conversation which you had with Mr. White in the presence of these persons you have spoken of?

A. I made a memorandum of the conversation immediately upon my return to the office in the gas works.

Q. Have you that memorandum?

A. This is the memorandum, yes, sir.

Q. How soon or how long in time after the conversation occurred did you make that memorandum?

A. Within half to three-quarters of an hour.

Q. I will ask you to state whether reference to that memorandum refreshes your recollection of the conversation had [228] between you and Mr. White on the 18th of March, 1910? A. It does.

Q. After consulting the memorandum and so refreshing your recollection, please state whether you have already testified fully as to the conversation that took place between you and Mr. White at that time, and if there is anything that did occur at that conversation that you have not already testified, state what it was.

A. There was nothing else. Immediately after this conversation, Mr. Edwards and myself got into the machine and returned to the office.

Q. Now, in addition to the complaint in communication of March 18, 1910, of Mr. White that you have testified to, and the communication of March 23d,

(Testimony of C. A. Luckenbach.)

1910, from Mr. White that you have already also identified, and the statements that were made in the conversation with Mr. White down at the gas works that you have just now testified to, were there any other complaints made to you by anyone representing or purporting to represent The Western Gas Construction Company concerning fuel furnished to them during this test from March 10 to March 30, or concerning any act or conduct of the Los Angeles Gas and Electric Corporation during that time?

A. There was not.

Q. Was there at that time or at any time that you have referred to in your testimony anyone connected with the Los Angeles Gas and Electric Corporation who had charge or control of construction of apparatus or supervision of construction of apparatus by others for the company, superior to yourself in the Los Angeles Gas and Electric Corporation—any higher officer who had charge of those matters?

A. I had charge of all of the construction.

Q. Do you know of any complaint other than the complaints [229] that you have just testified to that were made by and on behalf of The Western Gas Construction Company during the period of March 10 to March 30, 1910, concerning any act or conduct of the Los Angeles Gas and Electric Corporation, with reference to the performance of this contract?

A. I did not.

Q. Has anyone representing the Western Gas Construction Company or assuming to represent them at any time since that time told you of complaints that



(Testimony of C. A. Luckenbach.)

were made during that period other than the complaints you have testified to? A. They have not.

Q. I show you this document and ask you to state if you can say what it is.

A. It is a copy of a letter addressed to The Western Gas Construction Company by myself as manager of construction and R. M. Adams, as Secretary of the Los Angeles Gas and Electric Corporation, under date January 30, 1911.

Mr. GOUDGE.—We offer this in evidence, if the Court please, there being no objection on the ground that it is a copy.

(Mr. Goudge reads said letter in evidence and the same is marked Plaintiff's Exhibit No. 28, and is as follows:) [230]

**Plaintiff's Exhibit No. 28.**

June 30th, 1911. 19

The Western Gas Construction Company,  
Fort Wayne, Indiana.

Gentlemen:—

On April 10th, 1910, we requested of you that you remove your water-gas apparatus from our premises in accordance with the terms of our contract of July 12th, 1909. On May 10th, 1910, we received a letter from you in which you refuse to remove said apparatus from our premises. We have, however, waited over six months since the receipt of your letter in order to give you ample opportunity to remove said apparatus, and you having failed to do so we herewith notify you that unless you re-

(Testimony of C. A. Luckenbach.)

move said apparatus from our premises on or before February 15th, 1911, we shall on said day, or as soon thereafter as possible have said apparatus removed and stored in this city at your expense.

Very truly yours,

LOS ANGELES GAS AND ELECTRIC  
CORPORATION.

By C. A. LUCKENBACH,  
Manager of Construction.

By R. M. ADAMS,  
Secretary.

cc B. S. PEDERSON,  
Pacific Coast Representative. [231]

Q. (By Mr. GOUDGE.) At the time that letter was written, the apparatus had not been removed had it? A. It had not.

Q. Subsequent to the date of that letter, did The Western Gas Construction Company remove the apparatus? A. It did not.

Q. Subsequent to the date of that letter, has the apparatus been removed? If so, by whom and when?

A. It was removed by the Los Angeles Gas and Electric Corporation. The work of removal was begun on the 10th of April, 1911, and finished on the 25th day of May, 1911.

Q. And what was done with it?

A. The apparatus is stored in what is commonly known as our oil lot,—the oil lot of the Los Angeles Gas and Electric Corporation on Keller street between Macy and Aliso street.

(Testimony of C. A. Luckenbach.)

Q. How much, if you know, did it cost to remove the apparatus? A. The cost was \$1659.65.

Mr. GOUDGE,—That is all.

Cross-examination.

(By Mr. CHAPMAN.)

I am not a practical gas machine operator or engineer. I have studied chemistry. I have done some chemistry work, but not in gas engineering, however.

Q. Are you a college graduate in the science of chemistry?

A. No, sir; I have the degree of Bachelor of Metallurgy.

Q. To what extent have you studied the science of gas making or the operation of these machines?

A. I make no pretensions to being a gas engineer of any kind. My knowledge of the subject is simply that which I have derived from my connection with this company and the observation [232] of the operation of our plant. In the course of my duties I had charge of the negotiations which led up to the execution of this contract of April 8th, 1907; and those negotiations were carried on to an extent personally with Mr. Pederson, and additionally by correspondence with the corporation itself and with Mr. Pederson.

Q. Prior to the time that this first letter, written in February, 1907, by Mr. Pederson, in which he informed you that certain blue-prints and plans or specifications had been sent you, had you had some personal interviews with him?

(Testimony of C. A. Luckenbach.)

A. My recollection is that the very first steps taken in connection with this were with Mr. Pederson personally when he was in Los Angeles. Mr. Pederson traveled back and forth over the coast representing this company at the time, and called on me frequently with reference to gas apparatus.

Q. In the course of the first negotiations, what did you indicate to him was the character of the apparatus and the purpose of it?

A. As I recall it, I told him we wanted a water-gas apparatus to use carbon or lamp-black in as a fuel at our gas works.

Q. Did Mr. Pederson make no inquiry as to the nature of that and the manner in which it was to be served and used?

A. No, Mr. Pederson and I both well understood what the fuel was and what we desired to use.

Q. Do you mean to say that he did not ask leave to investigate and go to your plant and look over the ground?

A. I have no recollection of any such thing. Mr. Pederson had access and always had access to our plant.

Q. Don't you recall, Mr. Luckenbach, that in the course of these first negotiations that Mr. Pederson wanted a sample of that and you rang up Mr. Millard at the works and told Mr. Millard to furnish him with a sample? [233]

A. I have no recollection of any such thing. On the contrary, I have a distinct recollection of Mr. Pederson making a statement to me that he had a

(Testimony of C. A. Luckenbach.)

sample of the carbon.

Q. Don't you recall that you had in the office some samples that had been bricked, and Mr. Pederson was directed to come there and get his samples as a representative of what he would be required to use?

A. That I kept samples in my office?

Q. That your company did or the operators in charge of the works.

A. There may have been samples in Mr. Millard's office. I have seen samples there, yes, sir.

Q. Don't you recall explaining to Mr. Pederson that the briquets he had were a correct representation of what he would be required to use, except the form and shape of it?

A. Absolutely and unqualifiedly, no.

Q. To refresh your memory, didn't you inform Mr. Pederson that the material of which those samples were composed was similar to that which he would be required to use, but that you might not brick it into the small briquets, but if you didn't do that you would brick it?

A. No, sir; there was no such conversation between Mr. Pederson and myself.

Q. But you do remember that he reported to you that he had samples?

A. He stated to me that he had samples of the carbon or lamp-black.

Q. Did he tell you where he had gotten them?

A. No, sir.

Q. Did he tell you anything about their consistency or their stability?



(Testimony of C. A. Luckenbach.)

A. No, sir, not at that time. No, he did not.  
[234]

Q. At any rate, you did understand that he had made an investigation and had seen the bricks or briquets, and that he was to base his guarantees upon what he found with respect to those samples?

A. No, I didn't understand anything of the kind. I asked him for a guarantee, understanding and believing that Mr. Pederson knew more about the lamp-black than I did myself.

Q. Do you recall any conversation between yourself and Mr. Pederson that led up to your writing the letter of March 5, I believe it was, of 1907, in which you prefaced some remarks about the character of fuel by saying that in order that no misunderstanding might occur, the fuel was so and so? Do you recall any conversation that led up to the writing of that letter?

A. No, I do not. I think, as I recall it now, The Western Gas Construction Company were slow in getting in their figures. We were trying to get their figures and process and guaranties, and were also in correspondence with other parties. My recollection is that that statement is an exact copy of what was placed in letters to others.

Q. In other words, you had been negotiating with other firms, and in order that no misunderstanding might occur as to the character of the fuel and the manner in which it was to be delivered, you had this stereotyped detailed information which you were sending out? A. Yes, sir.

(Testimony of C. A. Luckenbach.)

Q. You had a great many conversations with Mr. Pederson, did you not, Mr. Luckenbach?

A. A great many, yes, sir.

Q. And you did not keep memorandums of these conversations did you, in all instances?

A. No, sir. [235]

Q. You do not pretend to be able to recall everything that was said and done with Mr. Pederson with absolute accuracy?

A. By no means, no, sir.

Q. Do you deny that Mr. Pederson and yourself did have a conversation shortly before this letter of March 5, 1907, was written, in which the subject of fuel was discussed and the manner in which it would be bricked and served was discussed, and that you stated to Mr. Pederson, "Now, in order that there be no misunderstanding, the best thing for me to do is to put this on record and send you a detailed statement of the nature of this fuel," and, accordingly, this letter of March 5 was written?

A. Yes, sir. I had no such conversation with Mr. Pederson.

Q. Would you say it did not occur?

A. Yes, as you relate it, I distinctly say it did not.

Q. I mean in substance.

A. Yes, sir. It did not occur.

Q. I call your attention to this language in this letter of March 5, 1907: "We are now negotiating for the purchase of a drier to handle all of our product, and anticipate that this drier will turn out our carbon with from five per cent to not to exceed

(Testimony of C. A. Luckenbach.)

ten per cent moisture." Did you refer there to a Cummers drier?

A. I don't know that I referred particularly to a Cummers drier. We did actually purchase a Cummers drier, but we were negotiating with several parties for a drier. I had in mind the purchase of a drier to eliminate the moisture from this material, and did purchase a drier which was a Cummers.

Q. How long after the execution of the contract did you install that apparatus?

A. After the execution of what contract?

Q. The contract of April 8th, 1907. [236]

A. It was installed during the year 1907. I can't give the exact date without referring to records, but it was well along in the summer or early fall before it was in operation.

Q. Was it in operation at the time the installation of this set as first constructed was completed?

A. As I recall now, it was, yes, sir, but I won't be certain without actually referring to the record. We had some trouble with that drier at the time it was installed, and there was some considerable delay in finally getting it into operation.

Q. What was the nature of the apparatus? How is it constructed, in a general way?

A. It is a cylinder heated from the outside, and the lamp-black passes through it from one end to the other, driving the moisture out. The apparatus is designed to handle the product in its loose and unbricked form.

Q. Have you that apparatus still in operation?

(Testimony of C. A. Luckenbach.)

A. Yes, sir, it is still in operation.

Q. The same apparatus that was purchased and installed pursuant to these negotiations that you speak of here?

A. Practically so. There have been some minor changes in it.

Q. Has its capacity been increased any?

A. No, not in that apparatus.

Q. What was its capacity?

A. That depends entirely upon the percentage of moisture in the carbon at the time it enters the drier, and the percentage of carbon at the time it leaves the drier.

Q. What is the capacity measured in respect to the dried carbon that would go through it, reduced to say ten per cent moisture?

A. My recollection is that it will handle sixty tons per day of lamp-black containing sixty-five per cent moisture at the [237] inlet, and reducing it to five per cent at the outlet—removing sixty per cent moisture.

Q. You can give us an approximation of the weight?

A. Well, it would have—somewhere in the neighborhood of thirty tons of dry carbon.

Q. I notice you say in this letter that you anticipate or that you are negotiating for the purchase of a drier which would handle “all of our product.” Was this apparatus that you installed capable of handling all your product at that time?

A. I couldn't say whether it was or not.

(Testimony of C. A. Luckenbach.)

Q. As a matter of fact, were you not disappointed with the capacity of that machine?

A. We were testing, and after some experimenting we were not, and have since purchased another of the same kind.

A. In the first place, it did not turn out as you anticipated?

A. In the first trial of the machine it did not.

Q. How long before you perfected it so that it did become satisfactory?

A. I couldn't say. The machine from the time of its installation and operation would remove the poundage of water guaranteed by the contract.

Q. But would not handle the—

A. Yes, it would handle a larger amount in quantity, but not reduce the water to as small a content as the contract called for, due to the fact that when we got down to that percentage of moisture, the carbon itself would catch on fire.

Q. When you purchased the drier, your understanding was that it had a capacity to handle a certain tonnage of dry material, was it not?

A. No. Our understanding was that it would handle a certain tonnage of wet material, containing a certain percentage [238] of moisture and reduce that moisture to five per cent. My recollection is that it was sixty tons in weight in one day, reducing the moisture from sixty-five per cent to five per cent.

Q. You stated in your direct examination in answer to a question of Mr. Goudge as to the man-



(Testimony of C. A. Luckenbach.)

ner of treating the material during the years 1907 and '8, that you had treated some of it before bricking and then bricked it, and then others you had bricked moist and dried them afterwards, did you not? A. Yes, sir.

Q. Do you mean by that that all of the material during the operation of this machine was not passed through that machine?

A. I do not understand your question.

Q. Did you mean by that answer when you said that part of the material had been bricked wet and then dried and part had been dried first and then bricked, that all of the material did not go through the Cummer drier?

A. What do you mean by "all of the material"?

Q. All of the material that was manufactured into bricks that was used in this apparatus during any of its trials or tests.

A. To the best of my recollection and belief, all the material used did not go through the Cummers drier.

Q. Could you give us an idea what part of it did and what part did not? A. I cannot, no, sir.

Q. Was it half and half?

A. I wouldn't like to venture a statement.

Q. There was a considerable quantity that was bricked before drying and a considerable percentage after?

A. I cannot answer that question for the reason that my recollection is that the material that went into the bricks—went to make up the bricks—was none of it—that in no one brick or in no one hopper

(Testimony of C. A. Luckenbach.)

of carbon was all of the material [239] which had gone through the drier.

Q. You know that to be a fact?

A. That is my recollection.

Q. Now, you say after this contract was installed, in the course of time, the apparatus as first designed, or at least purporting to be first designed, was installed,—did you have supervision of the installation of it? That is, the oversight of it from the gas company's standpoint?

A. Not the direct oversight of the installation; no, sir. I was manager of the department that installed it, but I was not the man on the ground that looked to see that it was installed according to the specifications or installed properly.

Q. You did see it, however, on many occasions during the time it was in the course of installation and afterwards, did you not? A. Yes, sir.

Q. Before we leave the drier again, when was the second drier installed? When did you increase your capacity for drying?

A. The drier was installed last year, after this test was over.

Q. Referring to this water-gas set, I now ask you whether as manager of construction you had charge of the work here which was being installed, in so far as the gas company had any oversight over it.

A. The men who installed it and had charge of the direct installation were under my control. I was not on the ground to see all of the installation.

Q. But you did see the apparatus many times

(Testimony of C. A. Luckenbach.)

while it was being erected and afterwards?

A. Yes, sir.

Q. Was that apparatus enclosed in a building?

A. Yes, sir. [240]

Q. Was it set upon a foundation? A. It was.

Q. Was the foundation there constructed by your company or was it built by the construction company?

A. The foundation was constructed by the Los Angeles Gas and Electric Corporation according to the plans prepared and submitted by The Western Gas Construction Company.

Q. And the water-gas set was placed upon the foundations thus provided? A. Yes, sir.

Q. How was the generator attached to the foundation, in a general way?

A. It was set right on top of it.

Q. Was it attached by screws or bolts or in any other way, so far as you know?

A. Not that I know of.

Q. Just set on loose?

A. Set right on the foundation.

Q. The generator consists of a steel shell, does it not?

A. Yes, lined with brick on the inside and no brick on the outside.

Q. Was this generator brought here in the condition in which it stood upon the platform or the foundation, rather, or was it shipped here in parts?

A. The apparatus was brought here by The Western Gas Construction Company and installed in the

(Testimony of C. A. Luckenbach.)

plant on the foundation.

Q. Was it brought in parts and then erected by putting them together, by bolting or screwing, or was it brought here in the final shape?

A. Different parts were brought here and put together.

Q. And those parts were set upon this foundation and attached together by The Western Gas Construction Company? .[241] A. Yes, sir.

Q. And the brick work, did that form any considerable part of the apparatus?

A. Quite a considerable part.

Q. How about the generator? Was it attached to the foundation in any way similar to that of the generator that you speak of?

A. I do not understand your question. You ask whether the generator was attached to the foundation, and I said it was placed upon the foundation. Now, I do not understand the question.

Q. I am asking what was the fact with reference to the carburetter. A. It stood in the same way.

Q. It is composed also to a large extent of brick work built up inside of the carburetter?

A. Yes, sir.

Q. And the other apparatus that form the component parts of the set are set up in the same manner? A. Yes, sir.

Q. And all enclosed?

A. Yes, it is all enclosed within the building; yes, sir.

Q. And they are all attached together, are they

(Testimony of C. A. Luckenbach:)

not? A. Yes, sir.

Q. And also connected with your gas manufacturing and distributing system?

A. Well, yes, they are. There is a pipe-line or was a pipe-line from the outlet of this set to the general manufacturing plant of the company.

Q. And also pipe-lines leading from your steam boilers to the set?

A. Yes, sir, to convey the steam. Oil to convey the oil, [242] and water to convey the water.

Q. Pipes to convey the water? A. Yes, sir.

Q. Now, when you removed this set you took it apart, I suppose, did you not? A. Yes, sir.

Q. And it cost you something over sixteen hundred dollars to tear it down and haul it away?

A. Yes, sir, and store it properly.

Q. How about the brick work?

A. I took the brick work out and piled it with the rest of the generator set.

Q. To do that you had to separate the bricks from themselves, they being attached together, did you not? A. Yes, some of them.

Q. And you piled that up in the storage house?

A. Yes, in the storage on Keller street.

Q. You said something about an interview that occurred about the 16th day of June, 1908, at Mr. Trippet's office, at which were present, Mr. Pederson and yourself, and at which there was a general discussion which took place with respect to the character of the fuel that the parties had been using and were expecting to use in the coming test?



(Testimony of C. A. Luckenbach.)

A. I did not confine it to the 16th of June. I said my recollection was it was within a week previous to the signing of this contract.

Q. And the criticism and the point of the discussion was excessive moisture in the fuel?

A. That was the main discussion, yes, sir.

Q. I believe you stated that the company sometimes resorted to plowing and harrowing and rolling in order to get the moisture out of the bricks? [243]

A. No, sir.

Q. I don't mean bricks, but out of the material.

A. Out of the material in the piles; yes, sir.

Q. Was that done in respect to the material that was bricked up for this apparatus?

A. It may have been and it may not have been. I couldn't say.

Q. That which you would handle that way, you did not run through the drier?

A. Possibly some was run through the drier and some was not. I believe most of it was used direct in lumps in our water-gas generators as they then existed or, possibly, as boiler fuel.

Q. In those sets since that time you used the bricks?

A. Part of the time bricks and part of the time lumps.

Q. You said something about there being a cement or binder inherent in this material.

A. No. I said that we used no binder or anything, to hold the material together, except what was inherent in the material itself.

(Testimony of C. A. Luckenbach.)

Q. I understood you to call it a cement or something of that kind.

A. No. I was specific to state that there was nothing put into the material to bind it together; that whatever held it together was in the material itself.

Q. Do you know what that is that was in the material?

A. I think it is the dead oils. Our experience has shown that the material will bind better with from sixteen to twenty-two per cent of moisture than it will dry.

Q. Do you claim that the moisture has an adhesive power and helps bind it?

A. I am not able to say from a technical standpoint what [244] the reason is, but I am prepared to say that our experience shows that when the material contains from sixteen to twenty-six per cent moisture, it binds better under pressure than when it contains no moisture.

The COURT.—This dead tar that you refer to being in the material—dead oil—is that carbon or lamp-black?

A. It is dead oil from the manufacture of gas, taken up in the lamp-black, passing through the generator and into the wash-box.

Q. It is not carbon or lamp-black?

A. Lamp-black is the by-product of gas manufacture, as it comes from the wash-box, and that product contains some dead oil in it.

Q. Which is not lamp-black?

(Testimony of C. A. Luckenbach.)

A. Yes. The lamp-black—that is one of the contents of the lamp-black.

Q. (By Mr. CHAPMAN.) You stated yesterday that your company had installed during the time that this controversy was pending, a brick machine that was similar to those used in regular brick-yards, did you not?

A. I don't think I said it was installed during this controversy. We had a brick press down there that had been installed.

Q. At all times when any brick was made to be furnished to this apparatus, you had a machine there that bricked them, did you not? A. Yes, sir.

Q. Do you know the capacity of that machine?

A. I could not tell you off-hand. There was one brick machine, a two-mould press, and another a four-mold press, and we were making bricks in—

Q. You don't know how much they would turn out in any [245] given time?

A. I would not like to give the capacity without checking it.

Q. You also had a briquet machine?

A. Yes, sir.

Q. Do you know the capacity of that machine?

A. No. It was a little less than the brick machine.

Q. Can you approximate it?

A. My impression is somewhere in the neighborhood of three tons a day, but I would not want to swear to that without looking it up.

Q. Do you mean each one had a capacity of that?

(Testimony of C. A. Luckenbach.)

A. No. You said the brick machine. I never paid any attention to that because it is not my department.

Q. You said you thought both were about the same capacity?

A. The two-mould press has not the same capacity as the four-mould press. The four-mould press, when used as a briquet press, is of slightly less capacity as a brick press, but just what the capacity is I don't know.

Q. What operator or representative of your company could give the capacity of those machines accurately?

A. The superintendent of the plant or assistant superintendent at the plant.

Q. What is the superintendent's name?

A. D. J. Young.

Q. You use the term "bricks" to describe the larger product of the machine, and "briquet" to indicate the smaller?

A. Yes, sir. The brick is the standard size of building brick. A briquet is round. I believe they are two inches and a quarter in diameter, and spherical.

The COURT.—Otherwise the material in the two are the same? A. Just the same; yes, sir. [246]

The COURT.—Briquets are simply a round ball?

A. It is not a round ball. It is flat on the ends and round—cylindrical.

Q. (By Mr. CHAPMAN.) Do you remember when Mr. White came to Los Angeles to take charge

(Testimony of C. A. Luckenbach.)

of the changes and alterations in the machine, along about December, 1909?      A. Yes, sir.

Q. Did you have many interviews with him after he arrived here about the apparatus and the conditions?      A. A great many times.

Q. Do you recall that when he first arrived here and the generator was in process of reconstruction, and he took charge of the work and carried it on until the early part of January, when the machine was in condition to commence making gas?

A. I would not give the exact dates, but he took charge of the building work from the time he arrived here until he left.

Q. Do you recall having any conversation with Mr. Pederson and Mr. White after Mr. White arrived here and the generator was finally completed, as to the proper tests and operations to balance the machine?

A. I have no recollection of any specific conversations in respect to that matter.

Q. Well, and general conversations?

A. No, I don't recall any.

Q. Do you recall that the machine was operated in the month of January for a few days?

A. I don't know—yes, there were three days when it was operated in January.

Q. Do you recall whether you had any understanding with Mr. White and Mr. Pederson about the length of time they should operate it for the purpose of experimenting with their air blast and balancing the machine? [247]



(Testimony of C. A. Luckenbach.)

A. Do you mean as to a specific time?

Q. Yes, generally, the time that they would be allowed for that purpose.

A. I don't recall it, but I know on a number of occasions I would ask Mr. Pederson and Mr. White how long it would take them before they would be ready to make gas.

Q. Can you recall in a general way what Mr. Pederson and Mr. White told you in that regard?

A. They would give me various dates. They would be ready on a certain day, and when that day came something would happen, and they would be ready at a later date, and that was postponed.

Q. Do you recall that after the preliminary, experimental operations commencing in January for a few days, that you mentioned, that there was then an explosion of an air blast line?

A. There was an explosion of an air-blast line, yes, sir.

Q. And that explosion occasioned considerable delay? A. It gave some delay, yes, sir.

Q. Besides that explosion, was there not another accident, the explosion of a tank or something that resulted in a serious injury to an operator?

A. There was an explosion in connection with the seal or the scrubber. The scrubber.

Q. Was that along about that time in January?

A. I would not give you the exact date, but it was along after Mr. White came here.

Q. Your counsel introduced a letter yesterday from Mr. White in which Mr. White indicated his

(Testimony of C. A. Luckenbach.)

desire to be furnished with bricks containing from sixteen to twenty-five per cent moisture rather than ten per cent.

A. I recall that letter.

Q. Do you know the occasion of writing that letter?

A. No. To the best of my recollection, that letter was [248] presented to the company when I was at home ill.

Q. You do remember, do you not, that there was some difference of opinion between Mr. Millard and Mr. Pederson and Mr. White, or rather, some speculation as to whether the bricks or larger percentage of moisture would not make gas better than bricks of a less per cent?

A. I never heard of such a thing.

Q. You never heard that Mr. Millard had advised Mr. White to use bricks of greater moisture than bricks containing ten per cent?

A. I never knew that Mr. Millard had advised Mr. White to do anything. If he did, it was in direct violation of his instructions.

Q. Who was Mr. Millard?

A. He was superintendent of the plant at that time.

Q. Do you mean to say that Mr. Millard was instructed not to give them any instructions of any kind?

A. The instructions were that The Western Gas Construction Company were to operate the sets themselves.

(Testimony of C. A. Luckenbach.)

Q. And assume the sole responsibility?

A. Yes, sir.

Q. Use their own judgment as to everything in connection with the operation? A. Yes, sir.

Q. Entirely independent of your operators?

A. Yes, sir.

Q. Now, do you recall also, that when Mr. Pederson came later, in December, he gave you a letter that indicated that they had changed their mind and desired brick of lesser content of moisture?

A. Yes, sir. That letter was presented to me by Mr. Pederson. [249]

Q. Did you have bricks of both character at that time, those that contained a per cent of less moisture and those with more than that quantity?

A. I believe the bricks—I couldn't swear as to the percentage of moisture, but I would say those bricks as a whole contained more than ten per cent moisture.

Q. The greater quantity that you had there had been air dried in part and partly dried through a Cummer machine?

A. I couldn't swear to that. The bricks were never dried in the Cummer machine.

Q. I don't mean that. I mean the material.

A. The material might have gone through the Cummer drier at times. I couldn't swear to it.

Q. You recall the taking of your deposition, do you not, some weeks ago in this matter? A. Yes, sir.

Q. In that deposition, did you not testify that the brick you had there had been principally air-dried,

(Testimony of C. A. Luckenbach.)

although a portion of the material might have gone through the drier and probably did go through the drier?

A. I don't think I testified they were air-dried.

Q. On page 24 of your deposition: "Q. Now, up to the time of the test had you made any preparations for accumulating a supply of brick to be used during this test? A. We had a large amount of brick on

hand. Q. How was it prepared? A. It was made in brick machines. Q. It was brick? A. It was

brick. Q. And had it been dried any? A. Air-dried, as far as I know, was the only drying. Some of it may have been dried and some of it may not. I could not tell definitely. Q. Prior to that time you

had installed what is called a Cummer's drier, had you not? A. We had a Cummer drier, yes, sir.

Q. Were you making use of that at that time? A. I believe we [250] were, yes, sir. Q. Did you make use of that drier continuously from the time the experiments started up until the test was ended?

A. I couldn't say as to that. The operation of the drier was not in my department, and I would not like to say it was continuous." Did you so testify?

A. I testified to that, yes, sir. Bricks were made and set out in the air, in the open air, piled.

Q. Do you recall when the gas machine was first started in January that it required several days to dry it out before gas making could proceed?

A. I presume the brick work had to be dried out.

Q. That is customary, isn't it, to load up with a wood fire first and gradually heat up the machine in

(Testimony of C. A. Luckenbach.)

order that it may become thoroughly dry before you make gas?

A. We always dry out all our brick work.

Q. After that machine was operated those few days in January and after the explosion occurred, do you recall having some conversation with Mr. White about the unsatisfactory method of charging the machine with fuel?

A. I couldn't say it was at that time. Mr. White spoke to me about the unsatisfactory condition of charging, but whether it was that specific time, I couldn't say.

Q. What do you recall about that conversation?

A. He spoke about it taking considerable time to charge, and he wanted to get some wheel barrows or wagons with which he was to charge the machine, and I believe did order some wagons or wheel barrows from San Francisco, and afterwards discarded them.

Q. Wasn't there some talk also of allowing him credit in that operation of the machine and the test for the unusual or extra length of time it took to charge by reason of the necessity of shovelling rather than to have some device that did it [251] mechanically? A. No.

Q. Nothing of the kind? A. No.

Q. Was there any talk about building chutes to handle the material? A. Additional chutes?

Q. Yes. A. Not with me, no, sir.

Q. Was there any talk about putting on extra men, and each company charging half the expenses?

A. Yes, sir.



(Testimony of C. A. Luckenbach.)

Q. What was finally done about that?

A. I believe they did put on extra men. They were authorized to do so.

Q. Was that method pursued during the test?

A. That is my understanding.

Q. Don't you know that they had some chutes there to handle material without the necessity of shoveling it?

A. There was a chute from the bin, but I don't know of any other chute.

Q. Where was the brick made with reference to the position of the machine, what distance?

A. I couldn't swear positively where those bricks came from. We had one brick press that stood where what was commonly known as the old drier stood on Keller street north of Aliso street. We had another brick press on Howard street, which was on the west side of Center street, and it may have come from either one of these. It may have come from either one of these. It may have come from the brick press at Macy street—I couldn't tell where it came from.

Q. In either event that fuel had to be hauled a block or more before it could be used in the generator? [252]

A. I should say from three or four hundred feet to a block.

Q. And they were loaded on wagons and hauled to the generator? A. Yes, sir.

Q. During the test? A. Yes, sir.

Q. After they arrived at the generator, do you

(Testimony of C. A. Luckenbach.)

know how they were handled before they actually went into the fire?

A. They were put into a pit, and from that into a skip, and hoisted and from there dropped into a bin.

Q. They were first dumped off the wagon into a pit? A. Yes, sir.

Q. How deep was that pit?

A. Six or eight feet.

Q. Descended from the top of the wagon six or eight feet underground inside of this pit?

A. Yes, sir.

Q. Onto a platform, did they not?

A. Onto the bottom of the pit.

Q. Wasn't there a platform there that caught the brick, or were they dumped into a bucket?

A. I couldn't say. They might have gone onto the ground and then been shoved into the pit.

Q. Anyway they were dropped into a bucket and hoisted?

A. Yes—into a skip, twenty-five or thirty feet; after they were lifted to that place they were put into a bin there. They then went in through a chute into the generator. That apparatus for charging the machine was constructed by our company.

Q. Was there not some change made in it by The Western Gas Company with respect to making it available for the new generator?

A. There may have been. I don't know of any.  
[253]

Q. You do know that the bin and the chutes were perforated to eliminate to an extent broken particles or dust?

(Testimony of C. A. Luckenbach.)

A. The chute was perforated, yes, sir.

Q. Do you remember what date in February the machine was again started up after this accident to the blast line?

A. The first record I have of any gas being made is on the 17th of February.

Q. While they were operating on that preliminary test you became impatient about the delay in starting the final test?

A. Yes, sir. I don't know whether I began to be impatient then.

Q. You had been for some time? A. Yes, sir.

Q. And you wrote this letter of February 25, 1910, which is offered in evidence, in which you said that you had been informed that the final test would be started on January 24, 1910, and "owing to the injury to our blast line and the accident to your apparatus, the commencement of the test was delayed several days while you made necessary repairs, etc."—did you get a reply to that letter?

A. I would like to look over my correspondence before I answer that.

Mr. CHAPMAN.—I will ask counsel if they have a letter signed by Mr. Trippet, dated the 26th of January, in reply to this.

Mr. EDWARDS.—We have one February 26th.

Mr. CHAPMAN.—That is what I meant. (Letter handed to counsel.) It is agreed that this is the reply to that letter?

Mr. GOUDGE.—Yes, sir.

Mr. CHAPMAN.—We offer it in evidence.

(Said letter is read into evidence and marked Defendant's Exhibit "A," and is as follows:) [254]

**Defendant's Exhibit "A."**

OSCAR A. TRIPPET,

Room 315 Coulter Building,  
Los Angeles, Cal.

February 26, 1910.

Mr. C. A. Luckenbach, Manager,  
Los Angeles Gas and Electric Corporation,  
City.

Dear Sir:—

Referring to *you* 19-w of February 25th to Mr. E. C. White. Mr. White informs me in regard to his promise to commence the final test on January 24th, —anyhow the *the* apparatus was damaged as stated in your letter, and could not be operated. Mr. White tells me that the apparatus is not in condition for the test, and that is the reason that the test has not been proceeded with. In regard to commencing the test March 1, 1910, Mr. White assures me that he will prosecute preparation for the test with the utmost diligence, and of course we expect to adhere to the contract. He thinks possibly that he will be ready to commence the test March 1st, but cannot give positive assurance to that end, and it seems to me that it is unreasonable for you in this stage of the matter to fix a definite time for the beginning of the test. I am willing to meet all suggestions that may worry or annoy you in the prosecution of this work, as I did in our oral consultation. I propose to assure you, as I did your Mr. Edwards, that the apprehended diffi-

(Testimony of C. A. Luckenbach.)

culties may be met by negotiation and contract. I had no reason to consider this matter until Mr. Edwards called my attention to it this week, and I told him that if he would have Mr. White come up I would take the matter up with him. The first opportunity I have had to investigate the matter was [255] yesterday when you and Mr. Edwards and Mr. White came to my office. Now I assure you Mr. Luckenbach that no dilly-dallying or foolishness in regard to this matter shall take place with my consent. My clients have a large investment depending upon successful operation of this plant, and what is reasonably necessary in the preparation to make the test is something that lies only in the skilled operator, and I must necessarily rely on Mr. White in that behalf. But I want to assure you again that I have cautioned him that he must use every possible endeavor to satisfy you in the premises. I understand that you want this machine, and want it to be a success, and that is all we want; and Mr. White tells me that he believes he can attain the success by proper preparation and balancing the set. I do not believe that you or I will quarrel about these things. If anything goes wrong, come to me about it.

OSCAR A. TRIPPET.

P. S.: Mr. White tells me there is a controversy about the "blow up." I would be glad to take that up and believe it can be properly adjusted. [256]

Q. (By Mr. CHAPMAN.) Now, it would seem from this letter that you and Mr. Edwards and Mr. Trippet and Mr. White had had a meeting. Do you recall that?



(Testimony of C. A. Luckenbach.)

A. I remember being at—I would not have remembered it except from that letter, but I remember that I was at Mr. Trippet's office with Mr. White and Mr. Edwards.

Q. Do you recall that at that interview it was explained to you that this being an absolutely new generator, and having air blasts and different apparatus, that it was necessary to adjust them before they could get satisfactory results, that it would require considerable time to experiment and to adjust things before they would be in a position to go ahead with the final test?

A. That was always the claim from the time the first set was installed.

Q. You know that to be a fact, do you not, that a generator cannot be operated economically and properly until after certain experiments have been made in order to ascertain the quantity of air and the quantity of steam to be supplied?

A. There is a certain amount of adjustment necessary.

Q. The length of the blow and the length of the run, those things are all causes for experiment, are they not, to a large extent?

A. I would hardly call it experiment.

Q. What would you call it?

A. Our experience has not been that we had to experiment for a year or several months before we could get a generator in operation.

Q. Was there anything said about the insufficiency or inadequacy of the pressure on your air blast?

(Testimony of C. A. Luckenbach.)

A. I don't know whether there was or not.

Q. Don't you remember that you were furnishing about a [257] sixteen inch blast, and Mr. White was insisting that that was not sufficient?

A. I think you will find—the only recollection I have of any question of the blast is in connection with the letter in March, I believe. It was in either one of these two letters in March that Mr. White stated that the engineer had raised the blast the day previous.

Q. Finally, after persistent solicitation on his part, you did raise the blast from sixteen to twenty inch pressure?

A. One day the blast was too heavy, and the next day the blast was too light. It was switched from one thing to the other continually.

Q. Do you mean to say that he complained that the pressure was too great at any time?

A. No. I said one day he was trying a heavy blast and the next day a light blast and it was switched from one thing to another.

Q. And you finally raised it to twenty-four inches, at least the engineer did say he had increased it?

A. My instructions at the plant were to comply with Mr. White's commands in every respect, to let him ask what he wanted and to give it to him.

Q. Didn't Mr. White also complain to you that it was necessary to experiment some time with this fuel?

A. He may have done so, but I would not say. I wouldn't say that he did or that he did not.

(Testimony of C. A. Luckenbach.)

Q. After that interview at Mr. Trippet's office, did not Mr. White come to your office and plead with you to give him more time?

A. Yes, sir. He was at my office several times in reference to time, and different conditions.

Q. He explained to you that they would not have anything [258] like a fair chance if they started on March 1st?

A. I believe he did.

Q. And after much solicitation you consented to give him ten days more, and no more?

A. We consented to extend the time to March 10th.

Q. And as a condition of that you asked Mr. White to put his willingness to proceed on that day in writing?

A. Mr. White said he would proceed on March 10th, that he would be ready at that time, and previous to that time I would ask "When will you be ready to proceed with this?" "We will be ready on such a day." And when the day came it was postponed, and I asked for his statement to that effect.

Q. I asked about this particular interview?

A. I believe I asked him to sign that, if I am not mistaken. I wrote the typewritten copy.

Q. You dictated the latter and told Mr. White if he would sign that letter you would extend his time ten days?

A. That is my recollection of the matter.

Q. And the letter that you dictated is the letter of February 28, 1911, signed by Mr. White, which is in evidence?

(Testimony of C. A. Luckenbach.)

A. I presume that is the date of the letter that was read yesterday.

Q. After that letter was written, then you dictated a reply to it, consenting to the extension of time?

A. That is my recollection of the matter, yes.

Q. And on the same day you received another letter from Mr. White, did you not, dated February 28, 1910, one in which mention was made that the chief engineer had raised the speed of the engine and increased the pressure in the air blast?

A. I couldn't swear as to the date I received the letter without seeing the latter.

Q. Before this test started on the 10th of March you had [259] another call from Mr. White, did you not? On the 9th of March didn't Mr. White call on you about getting more time?

A. Yes, he did.

Q. Didn't he tell you at that time that the machine was not in condition to proceed, that he hadn't had sufficient time to make the necessary adjustments?

A. I don't think that was the reason that he assigned for wanting the extension.

Q. What reasons did he give?

A. I think it was stated that his carbureter was choked, and he wanted time to clean his carbureter.

Q. Didn't he also tell you that Mr. Pederson was out of the city, and he wanted him present at the time the test took place?

A. There was a statement from Mr. White that Mr. Pederson was not present, and the company desired him to be present, but whether it was in con-

(Testimony of C. A. Luckenbach.)

nection with that date or not I wouldn't say without looking at the correspondence.

Q. Didn't he explain to you that he was the only representative of the defendant company on the ground, and he could not be there twenty-four hours a day?

A. I say he did make that statement to me, but whether it was the date of March 9th, as you say, I would not be positive without looking at the correspondence. The letter was put in evidence yesterday, I think.

Q. It was a very short time before the test started, anyway? A. That is my recollection of it.

Q. And he also explained to you that they had put in a new or additional air blast or air supply of some kind, and he wanted to try that before starting?

A. No, sir. [260]

Q. Wasn't it explained to you that Mr. Pederson could not reach Los Angeles on account of floods or washouts that had delayed his transit here?

A. I don't know what reasons were given for it. At the time to which I refer, without specifying or stating it was the 9th of March, Mr. White did state that the company desired Mr. Pederson present, and that he was not present, but I don't think it was March 9th.

Q. You don't recollect when it was?

A. No, I do not. My impression is that there was some letter in which he stated if Mr. Pederson arrived before the date that they would begin the test before the date.



(Testimony of C. A. Luckenbach.)

Q. What was your reply to his request for more time?

A. We didn't grant any extension of time beyond the 10th.

Q. You refused it?      A. Yes, sir.

Q. Did you tell him that if they refused or did not commence the final test on that date that you would not supply him with any fuel, and take your operators away?      A. No.

Q. What did you tell him.

A. I told him we would not grant an extension.

Q. I will ask you to look at the copy of a letter and ask you if you recall having received such a letter?

A. I have no recollection of receiving this letter at all, no sir. I would not say positive I have not, without looking over my files. If I did it is in the file on the table.

Q. Do you recall any communications, conversations, or telephone message being sent you on March 9th by Mr. White, telling you that he had not succeeded in getting his fires up, and wanted another day?

A. May I see that file a moment, Mr. Edwards? (After [261] referring to the file.) On the afternoon of March 9th, Mr. White, the representative of The Western Gas Construction Company, came to my office and asked for one day's extension within which to begin the test of the set. I received no letter from him in reference to it. He asked for consent to begin on the morning of the 11th instead of

(Testimony of C. A. Luckenbach.)

the morning of the 10th. I refused to accede to it. He then stated to me that no arrangement had been made for cleaning out time and asked me to consent to an allowance of one day in every seven for time within which to clean out the set. I told him we would not consent to any variation from the form of the contract, and would make no concessions of any time until the test was completed. I stated to him after the twenty days test was completed he would be at liberty to present such requests for concessions as to time lost as he saw fit, and we would then consider them and act upon them. That until the test was fully completed we would stand strictly on the wording of our contract as it then existed. I am reading from a memorandum made at the time, signed by me, and put in my file.

Q. You meant then to convey to Mr. White the idea that you stood on the contract and to mean that they were not entitled to lay off those machines a day or a week or any time to clean them out and receive credit for it?

A. I didn't tell him anything about that. I said we would stand strictly on the wording of the contract. I was not interpreting the contract.

Q. You do not mean to say that you wished to convey that understanding to him, that he was not entitled to credit in the contract?

A. I told Mr. White specifically after the test was completed, that was a matter that could be adjusted then.

The COURT.—I think the question may be an-

(Testimony of C. A. Luckenbach.)

swered yes or no. [262]

A. I don't like to answer that question either yes or no.

The COURT.—You can answer it yes or no, and explain it.

A. No.

The COURT.—Make any explanation you want.

A. I did not intend to convey any meaning to Mr. White. It was up to him to interpret his own contract.

Q. (By Mr. CHAPMAN.) And what was your attitude or understanding about the contract you considered none of his business?

A. No. He had the contract, and it was just as much his business to interpret it as it was ours. We were not interpreting his contract for him, and I didn't want to commit myself either one or the other on the proposition, and repeatedly refused to do so.

Q. You did know what was in your mind, didn't you, at the time, about what your understanding of the contract was?

A. Possibly I did, yes. I don't think I had given it much thought. I had told Mr. White that was a question that might not arise, and it was a question that there was no need of discussing at that time.

Q. Wasn't Mr. Millard present?

A. No, sir. Mr. C. P. Houghton was present and heard the conversation.

Q. Wasn't Mr. Millard present on any occasion when that question was discussed?

A. I would not say he was not.

(Testimony of C. A. Luckenbach.)

Q. It was a practice in your own water-set to lay off a day each week for cleaning out?

A. No, sir, it is not. We lay off every generator in our works one day in seven to go over and see that everything is in proper working condition, whether the set shows any indication of being out of whack or not. But in computing or figuring the capacity of the set we pay no attention to how much it is out. [263]

Q. Nevertheless, your practice is in operating all your sets, to lay them off one day in seven for the purpose of repairing anything that has gone wrong, and if anything has gone wrong you do repair it?

Mr. GOUDGE.—Objected to as incompetent, irrelevant and immaterial, not cross-examination, and cannot have anything to do with this contract. This contractor said he would run this generator for twenty days. It is not material here.

The COURT.—It is cross-examination, and I shall permit the question to be answered.

A. Yes, sir.

Q. (By Mr. CHAPMAN.) Is it not the practice, during that period of cessation of operation, to start the fires through the carburetter and burn it out?

A. They do everything that is necessary to put it in proper condition.

Q. Isn't that one of the things necessary?

A. It might be necessary and it might not be.

Q. Isn't that always done?

A. I presume it is done, yes, sir.

Q. When this machine was shut down or just be-

(Testimony of C. A. Luckenbach.)

fore it was shut down on the morning of the 14th of March, did Mr. White telephone you and tell you that he thought his carbureter was clogged owing to the fact that they had not started with a clean carbureter?     A. Yes, sir.

Q. And that he found it necessary to shut down and recheck, and wanted credit for the time consumed in that?

A. At nine o'clock on the morning of March 14th, 1910, Mr. White called me up on the 'phone, and stated that when he had asked for a postponement of the time to commence the official test from the morning of the 10th to the morning of the 11th [264] he had intended to clean out the carbureter and replace the checker-work in the carbureter, but that he hadn't done so, and the result was that the set was very dirty and in very bad condition, and that he desired to shut down the set for two or three days in order to do this work. I told him that was a matter for him to decide; that he had started upon his official test; and it was up to him to comply with the requirements of his contract. That if he saw fit not to make any gas on a given day that was his fault and not ours, but that the time lost would certainly be counted in in making up the average of gas made by the set. He stated he understood that but that he thought he would gain by it, and therefore intended to shut down the set. He also stated that he understood we were willing to allow him one day in seven for cleaning out. I immediately contradicted the statement and told him no such agree-



(Testimony of C. A. Luckenbach.)

ment had been made, but that I had stated to him in the presence of Mr. C. P. Houghton that his test must be made, and then if he desired to present any reasons why he should be given any credits account of lost time, we would receive and consider them, but that we would not be bound by anything except the strict wording of the contract. I made this memorandum immediately upon hanging up the 'phone. At the time this memorandum was made and at the time the conversation took place, Mr. W. J. Dorr, superintendent of gas distribution, was sitting beside me at my table, and certifies to it.

Q. Mr. White rang you up and asked permission to shut down?      A. Yes, sir.

Q. And still told you that he understood he had a perfect right to shut it down, and was not entitled to credit for the time he was not operating?

A. Mr. White was endeavoring to trick me—Mr. White called up and wanted permission to shut down a set. Stating [265] that on the 10th he had intended to clean out the carbureter, and replace the checker-work in the carbureter. He said he understood that, but that he expected to gain by it.

Q. Did he explain why he rang you up if he understood he had a right to shut down and was entitled to no credit?      A. He did not.

Q. You don't know why he rang you up?

A. I have my belief.

Q. What is your belief?

A. I believe he wanted to try and get me to consent to a shut-down.

(Testimony of C. A. Luckenbach.)

Q. Of course he rang you up to get your consent to a credit for the time? A. Yes, I presume so.

Q. And he asked you for the credit?

A. He said he understood we were to give him credit.

Q. Is that the only interview you had with him about it, about receiving credit for the time?

A. No. I think he referred to it several times.

Q. Didn't he ask your permission to let the test be made as commencing when he started up again with a new carbureter?

A. No. The only question was the request of one day in seven for cleaning.

Q. Didn't he ask you if it wouldn't be agreeable to you to permit the test commence the day he started with a clean carbureter after re-checking it, and continue for twenty days?

A. Do you mean on March 14th?

Q. At any time? A. No, sir.

Q. Didn't you tell him in some interview with him while that re-checking was going on, that you folks took the position that that test must end the morning of the 30th of March, and [266] that the test would be deemed to be the twenty days from the 10th to the 30th? A. I believe I did.

Q. In that same connection and in the same conversation didn't he suggest to you that you permit them to treat the test as starting from the 17th, the day they commenced operations again?

A. No, sir.

Q. Did Mr. Pederson make any such request as

(Testimony of C. A. Luckenbach.)

that? A. I believe not.

Q. Did Mr. Trippet?

A. No, I think not. I don't think Mr. Trippet ever spoke about that.

Q. He did resume operations on the 17th, did he not? A. No. He made some gas on the 16th.

Q. He was building up his fires on the 16th, and made some gas on the 16th?

A. He made some on the 16th. Then he had a few days before the 17th, and from then on until the end of the test.

Q. The morning of the 18th, or rather, on the 18th, you got this letter from Mr. White protesting against the condition of the fuel, that has been offered in evidence?

A. I believe that was the date, yes, sir.

Q. And you sent in a reply in which you told him that you considered that the brick furnished was in accordance with the terms of the contract, and that he would have to accept it?

A. You refer to a letter that was filed?

Q. Yes. A. Yes, sir.

Q. You also made a call there with your attorney, Mr. Edwards, on Mr. White?

A. That was previous to sending the letter. [267]

Q. You went down to see him first?

A. Yes, sir.

Q. And then wrote the letter? A. Yes, sir.

Q. Where did this interview take place?

A. In Mr. Millard's office.

Q. Did you send for Mr. White or was he there

(Testimony of C. A. Luckenbach.)

when you got there?

A. I would not answer positively, but my recollection is that when we went into the office Mr. White was there, standing in the clerical office at a desk. That is my recollection.

Q. Didn't he have with him some samples or specimens of brick that were being sent to him?

A. No, I don't think so.

Q. Didn't he show you how easily the brick pulverized, and how very unsatisfactory it was?

A. No, I have no recollection of his having shown us any brick.

Q. Didn't he complain to you that they crumbled to such an extent that something in the neighborhood of a third went down through these perforators?

A. He may have said so. I don't recollect that.

Q. Do you undertake to say that Mr. White expressed satisfaction with this brick?

A. You heard my statement just as I gave it yesterday. That was the statement he made at the time.

Q. That the bricks were in good condition?

A. Delivered to him at the press in good condition.

The COURT.—What was the date of this conversation?

Mr. CHAPMAN.—This is the 18th, during the test. The next day after they started up re-checking.

Q. How long were you parties there talking this matter over? [268]

A. We may have been there anywhere from fifteen minutes to half an hour.

(Testimony of C. A. Luckenbach.)

Q. Was White there all the time?

A. I think he was, but I think we turned and left him standing, went out and got into our machine and came back to the office.

Q. What were you doing there during that time?

A. We went down upon that specific thing.

Q. After you got there how were you passing the time during that fifteen minutes to half an hour?

A. I don't know. I wouldn't say, I couldn't answer you.

Q. You know you were talking and discussing this matter? A. Yes. That is what we went there for.

Q. You do not pretend that you put all that was said between all of you parties on that note, on that typewritten memorandum? A. No, sir.

Q. There was a good deal said besides what you made a note of? A. There may have been.

Q. You had that in order to make a record of what transpired?

A. I wanted to fix the time, and fix the matter, yes, sir.

Q. Why didn't you get Mr. White to certify, make and send him a copy, in order that the record might be acceded to? A. I don't know.

Q. Were you anticipating trouble or a law-suit growing out of this matter?

A. No, not in particular.

Q. Why did you write the letter after you had been down there and had an interview with him, and explain your position?

A. I was advised by counsel to do so. [269]



(Testimony of C. A. Luckenbach.)

Q. Didn't Mr. White ask you to go over and look at the conditions at the machine? A. At that time?

Q. Yes.

A. I have no recollection of his having done so; no, sir.

Q. Did you go over there?

A. I don't think we went to the machine on that occasion; no, sir.

Q. Didn't Mr. White want you to go?

A. I don't think so; no, sir.

Q. Didn't you tell him you didn't propose to go over there and dirty your clothes?

A. No, sir. I never told Mr. White at that time or any other time.

Q. Why didn't you go over and find out what the situation was?

A. We were down there to see what those bricks were, and Mr. White told Mr. Edwards the bricks were satisfactory, and we went back. I had heavy work and I went back to take care of it.

Q. You went down there to see what the condition of the bricks was. Why didn't you go over and see?

A. I didn't care, as long as they were satisfactory to the representative of The Western Gas Construction Company.

Q. After he had informed you that they were satisfactory, did you ask him why he had written you a letter previously complaining that they were not satisfactory? A. No, I did not.

Q. You didn't go into that?

A. No, sir. So far as I was concerned I was satisfied.

(Testimony of C. A. Luckenbach.)

Q. Didn't it occur to you that it was inconsistent with his writing of the letters, to say that they were satisfactory?

A. I didn't care whether it was consistent or inconsistent. [270]

Q. Did you have the letter with you which White had written you? A. I believe we did.

The COURT.—What is the date of that letter?

A. The 18th of March.

The COURT.—You went down immediately after the receipt, on the same day?

Q. (By Mr. CHAPMAN.) It was delivered to you personally, was it not?

A. Yes, I believe it was.

Q. Then you went right down? A. Yes, sir.

Q. Did you hear anything more about bad fuel until the letter which you produced yesterday, and which was offered in evidence, the 23d, in which a similar protest was made? A. No, sir.

Q. (By the COURT.) Let me see if I understand you. You say you got that letter and then went down at once to see White? A. Yes, sir.

Q. White then told you that the brick was satisfactory?

A. He answered a question put by Mr. Edwards. The exact form of the question and answer is: Mr. Edwards asked Mr. White the distinct question whether the bricks furnished him for use in the generator were in good condition when he received them. He replied that they were, and that they were all right. He stated that the bricks at the time they

(Testimony of C. A. Luckenbach.)

were delivered to him were whole, good bricks, and the breaking up of which he complained occurred after the bricks were put into the chute, and during the time they were passing from the entrance of the chute into the generator and while handling them through his own apparatus.

Q. (By Mr. CHAPMAN.) You say it was after that interview [271] that you went back to your office, and wrote this letter of reply?

A. It was after that interview, yes, sir.

Q. Is the hour of your conference noted on your memorandum? Can you give us that?

A. No. I cannot give you the exact hour, but it was in the morning.

Q. Did you write this letter in the afternoon or morning?

A. I believe that letter was written shortly after we returned to the office. I couldn't positively say whether it was in the morning or after lunch; I believe it was right after lunch when that letter was written.

Q. If you thought you had disposed of the entire controversy by finding that the bricks were satisfactory to Mr. White, you didn't you say as much in your letter? A. I don't know why I did not.

Q. Why didn't you embody the memorandum in that letter if you merely wanted to make a record?

A. I don't know why I did not.

Q. Now, after the machine was shut down on the 30th of March, or on the morning of the 30th of March, did you have any conversation with Mr.

(Testimony of C. A. Luckenbach.)

White about another test?

A. He came to my office in reference to the machine, yes, sir.

Q. Did he request permission to make another test?

A. I don't think that he made that specific request, although it might possibly be considered as equivalent to that. He said he thought they ought to have a right to make another test.

Q. That was after you had informed him that you would not accept the machine, and that you would demand your money back? A. Yes, sir. [272]

Q. And you complained to him also that there were some defects in the construction, or rather some mechanical defects about the machine?

A. I don't know whether we complained about that. Mr. White in that interview, one of the reasons that he gave for not making the full quantity of gas was that he lost a great deal of gas through the leakage in the top of his generator.

Q. What did he say about putting the machine in first-class shape if you would accept it?

A. He was willing to put it in condition provided we would accept the machine or consent to another test.

Q. There was a letter offered in evidence, dated January 30, 1911, in which you notified the company that you were going to remove the apparatus unless they did. Did you get a reply to that letter?

A. I think we did.

Q. Did you get a reply to that signed by Mr. Trippet?

(Testimony of C. A. Luckenbach.)

(A letter was here handed to counsel.)

Mr. CHAPMAN.—Do you agree this is the letter that was sent in reply?

Mr. EDWARDS.—Yes, sir.

Mr. CHAPMAN.—We offer it in evidence, dated February 8, 1911.

(Letter marked Defendant's Exhibit "B" and read in evidence, and is as follows:) [273]

**Defendant's Exhibit "B."**

OSCAR A. TRIPPET,

Attorney at Law,

Los Angeles, Cal.

February 8th, 1911.

To Los Angeles Gas and Electric Corporation.

Los Angeles, Cal.

Gentlemen:—

Your letter of January 30th, 1911, your number 19, to the Western Gas Construction Company, has been handed to me with instructions to answer, and in reply thereto I will say that under the agreements between the companies, I consider that the apparatus has been delivered to you, and it is yours and you have a right to do with it as you please. The only effect your destroying it will have is to destroy the evidence that we have complied with our contract. If I am wrong in the above proposition, and the apparatus belongs to the Western Gas Construction Company, then I contend that the Western Gas Construction Company has a right to have the apparatus remain as it is in order that a demonstration may be



(Testimony of C. A. Luckenbach.)

made that the apparatus fully complies with the contract, and to serve as evidence in the pending litigation. There are other reasons why the Western Gas Construction Company refused to remove the apparatus, but your arbitrary notice seems to make it necessary for us to specify reasons.

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

By OSCAR A. TRIPPET,

Its Attorney.

Received February 15, 1911.

C. A. LUCKENBACH,

Manager of Construction. [274]

Q. (By Mr. CHAPMAN.) I believe you say that you removed the apparatus some time in May?

A. My recollection is that we began the removal the 10th day of April, and completed it on the 25th of May.

Q. Did you know at the time that you gave orders for the removal of that machine that this case was set for trial and expected to be tried in the following month?

A. I did not know when it was set for trial.

Q. (By the COURT.) Has the plaintiff devoted that lot on property on which this machine stood to any other use? A. Yes, sir.

Q. What?

A. There is an oil-gas generating set upon the same ground

Q. (By Mr. CHAPMAN.) I call your attention

(Testimony of C. A. Luckenbach.)

to a letter dated April 6, 1910, addressed to your company and signed by Mr. White for the Construction Company, and ask you if that letter was received by you?

A. Yes, sir. This letter was received by me on April 7, 1910.

Q. Is that Mr. White's signature?

A. I believe that to be Mr. White's signature.

Mr. CHAPMAN.—We offer it in evidence.

(Letter marked Defendant's Exhibit "C," and read in evidence, and is as follows:) [275]

**Defendant's Exhibit "C."**

Los Angeles, Cal., April 6, 1910.

Los Angeles Gas and Electric Corporation,

Los Angeles, Cal.

Gentlemen:—

Attention Mr. Luckenbach.

I beg to acknowledge receipt of your letter of April 5th. Can only state that I will send a copy to Fort Wayne, and will be guided by their decision in the matter.

The writer called on your Mr. Luckenbach this morning and during the conversation he (Mr. Luckenbach) seemed to lay a great deal of stress on the fact that we did not make 20-candle-power gas. I reminded Mr. Luckenbach, while in his office, of the conversation I had with him when I first came to *you* city, to wit, that I noticed in the contract we were to supply from 20 to 22 candle-power gas, using 41½ candles per gallon. I stated that it would be rather awkward to comply with the above stipulations as

worded and that I presumed, took for granted, that candles per gallons would be satisfactory. In this Mr. Luckenbach acquiesced with me and said that would be satisfactory. He stated at this morning's meeting that he remembered making no such remark, and I have no doubt but what he is honest in his belief. It is only regretted that there was no one else in the office at the time to attest my statement to the affirmative. There was no intention to trick Mr. Luckenbach into making this remark on my part. I had made oil-gas at Texas, and knew that it was natural for the gas to be of higher candle-power than water-gas, and therefore easier when combined gas was made to have the water-gas of less candle-power than the oil-gas, thereby making a more proportional candle-power for the send-out; and this was the principle I worked on at the works, thinking, of course, it was what your company wanted. I in no way tried to keep the candle-power down, as it is of no material difference. The [276] men around the works gave me to understand that  $18\frac{1}{2}$  to  $19\frac{1}{2}$  candles was about the right proportion they required and about what the old water-gas sets had been making. This candle-power mixed with the run of your oil-gas made from time to time is about the ideal candle-power required for the sending out on the town. It is evident now, and has been ever since coming here, that your Manager of Construction has been extremely antagonistic and unfriendly toward our company. He has related time and again of the imaginary wrongs and impositions the Western Gas Construction Company had imposed upon the Los Angeles Gas and Electric

Corporation. Stated today that we had trouble with everyone that we ever did business with. I asked him to repeat that sentence and he said every one we had business with on the coast.

You will fully appreciate that any construction company is liable to make mistakes, and there are things come up that are unavoidable which cause friction. The U. G. I. as well as all the construction companies have their troubles, and there are people that will declare that they will never do business with them again, and all such remarks. I think the general impression is that the Western Gas and Construction Company are no exception to the rule, and have tried in the many years of their doing business to do the right thing and to please their customers.

As evidence of your animosity and feeling towards us, I call your attention to the fact that you have sent bills to us every two or three days for fittings, etc.; no matter how small these bills, it was understood that I was to pay the cash immediately. I do not recall how many checks I have drawn since being here in your favor. I told your Mr. Millard I would prefer to wait and not be drawing on so many small checks but he stated that he had orders to collect at once. [277] It is not necessary to go into this matter as fully as I could, and personally would like to, as it has no bearing on the case at this time.

From the tabulation of figures shown, and considering the conditions under which we had to work, we consider that we have fulfilled the terms of the contract. The grade of carbon furnished at times was extremely brittle, and owing to the character of being

kiln-dried, disintegrated, and the fine stuff in the generator gave us a great deal of trouble.

In conversation this morning with Mr. Luckenbach, he stated that there had been no understanding as to how the carbon was to be dried. Consequently, it was up to us to take it as they saw fit to furnish it, or discontinue the tests. I will not elaborate on this. The home office at Fort Wayne will bring this point out fully.

Regarding Mr. Luckenbach's statement that the matter would be taken to the courts, we are informed by our attorneys that we have an excellent case, and certainly intend to defend it to the best of our ability, should you see fit to bring suit to compel us to return the money and remove the set. We feel confident the machine can more than meet the guarantee and offer to make a test run and prove this assertion, which you have refused us the privilege of doing. We acknowledge that the top of the generator leaked badly, making it extremely inconvenient and disagreeable for the gas-makers and helpers on the floor. This, however, was a mechanical defect, as you know, as well as we do, and that by taking the head off and putting down proper gaskets between the flanges this difficulty will be overcome. It was our intention, if permitted to make a test run, to put "I" beams across the top of the generator as stiffeners, and to re-set the coal hole branches, placing asbestos gaskets between the flanges and the top of the generator. [278]

The writer learned this morning that nearly all of the carbon formed in the carbureter has burned out, and the carbureter would be in fit condition to go



ahead making gas at this time. Regarding the super-heater, if the bricks, as you say, have falled down, we would certainly expect to replace them or set them up again as the requirements would necessitate. The machine showed no defects during the continuance of the test. We only lost eleven minutes altogether, with the exception of the time taken out for charging, cleaning and the 3 days on the rechecking.

We believe if you can give this matter serious thought you will realize that instead of our being childish, as you termed it this morning, that we would be simply imbecile if we, after making the figures that we did, were to comply with your request. The request to the writer's mind is simply absurd, and I believe that the Fort Wayne people will look at the matter in the same light. It is also my belief that any reasonable thinking person would, if the facts were put before them, consider that your request is simply absurd and inequitable in every sense of the word, and to somply with the same would be not much less than criminal confiscation to ask us to stand a loss of practically \$40,000. You will hear from our firm at Fort Wayne within the nest few days.

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

By E. C. WHITE. [279]

The WITNESS.—Mr Chapman, I would like to make a correction in the testimony I gave this morning. You asked me in reference to meeting Mr. Edwards, myself and Mr. Edwards with Mr. White, as to whether Mr. White had brought in any carbon. I

(Testimony of C. A. Luckenbach.)

have been thinking that matter over during the noon recess, and my recollection is that Mr. White did go out and get a carbon brick and bring it into the office, and I believe broke it in two in the office.

Q. (By Mr. CHAPMAN.) Didn't he at the same time kick it with his foot to show you how it pulverized?

A. I wouldn't like to say about that. My recollection is hazy, and I have been trying to fix it. I feel confident he did go and get a brick and bring it into the office.

Q. Were you assisted in your recollection by conference with Mr. Edwards?

A. I asked Mr. Edwards if he recollected it, and he said he thought it was correct.

Q. And he did bring the brick in your presence?

A. Yes, sir.

Q. And he showed you fissures in it due to driving out moisture?

A. No, my recollection is hazy, but he took the brick and broke it.

Q. In that same letter that was read before adjournment from Mr. White to yourself, on the 23d of March, there was some mention made of kiln-drying the bricks. Did you have anything to do with the kiln-drying of the bricks that took place down there?

A. Yes, I did.

Q. You gave the orders for the kiln-drying?

A. I gave the instructions to dry the brick, and that no brick containing more than 10 per cent moisture should be [280] delivered.

(Testimony of C. A. Luckenbach.)

Q. You had some rainstorms, had you not, that saturated the bricks more or less?

A. There had been rain while the bricks were out there.

Q. What did you tell them to do?

A. To dry the bricks to reduce the moisture to less than 10 per cent moisture.

Q. Isn't it a fact that you hired a large number of Mexicans and men to build large fires around?

A. Yes, sir.

Q. And created a great deal of smoke?

A. Yes, sir.

Q. So much that there was a great deal of complaint from the smoke inspector?

A. I don't know whether there was any complaint, but there was a visit, I think, of the inspector at that time.

Q. At any rate, it was necessary to apply to them an external fire of considerable magnitude?

A. Yes, sir.

Q. There was also some mention in that letter of hot bricks being served there. Do you recall anything about that?

A. That is in the letter of March 23d, I think, yes, sir.

Q. What did you do about that?

A. I called up Mr. Young, who was at the plant at that time and instructed him not to deliver any of that kind of brick to Mr. White, and he said that there were no further bricks of that kind being delivered. And that letter you will find a memorandum

(Testimony of C. A. Luckenbach.)

on in pencil stating the hour of the day when I gave the instructions.

Q. Do you recall what hour that was?

A. My recollection is now that it was 12:50.

Q. (By the COURT.) What date was that on? [281]

A. It was the date of the letter—

Q. The 18th? A. No, the 23d.

Q. (By Mr. CHAPMAN.) There was also some mention made in that letter of candle-power. Isn't it a fact that the gas that was produced in this water-gas machine after it was measured was turned into the oil-gas tank and mixed?

A. Which letter are you referring to now, Mr. Chapman?

Q. I am referring to the letter written by Mr. White after the test was closed, in which he narrated some interview that he had had with you concerning candle-power.

A. That is the letter of April 6th, as I recall. I remember that statement in the letter of April 6th.

Q. Do you recall of having any such interview with him?

A. No, sir. There was no such interview, and it was denied absolutely. I told Mr. White absolutely that there was no such interview.

Q. This water-gas after being mixed with oil-gas is then distributed to the customer? A. Yes, sir.

Q. I will ask you if you received this letter of April 2d, from Mr. White?

A. Yes, sir; I did. I received that letter on the 4th of April, 1910.

(Testimony of C. A. Luckenbach.)

(Mr. Chapman reads said letter in evidence, and the same is marked Defendant's Exhibit "D," and is as follows:) [282]

**Defendant's Exhibit "D."**

Los Angeles, Cal., April 2nd, 1910.

Los Angeles Gas and Electric Company,

Los Angeles, Cal.

Gentlemen:—

In consultation with your Mr. Luckenbach, we learned from him that he is not satisfied that the water-gas set constructed for you by the Western Gas Construction Company has made good the guarantees in the contract, and he seemed to be dissatisfied with the machine. Now, in order to avoid any controversy as to whether the machine has made the guarantees the Western Gas Construction Company would like to make a run to demonstrate to your entire satisfaction that the machine will do very much more than the guarantees. And in making this demonstration we are willing to run it any reasonable number of days you may demand to show that we are sincere and fully believe that the machine is fully capable of producing the guaranteed results.

Very truly yours,

THE WESTERN GAS CONSTRUCTION  
COMPANY.

By E. C. WHITE.

Received April 4, 1910.

C. A. LUCKENBACH,

Manager of Construction. [283]



(Testimony of C. A. Luckenbach.)

Q. I believe you have already testified that to that offer you declined to accede? A. Yes, sir.

Q. There was also in this letter of Mr. White that was read just before adjournment some mention made of antagonism on your part toward the defendant company's operator. Do you recall that there was a breach resulted between yourself and Mr. White and Mr. Pederson—at least, toward the defendant company—growing out of their refusal to pay for the repair of that blast-pipe that exploded?

A. I never had anything to do with the repair of that.

Q. Do you remember an interview that took place between Mr. White and yourself and Mr. Vance at which the question of who should pay for this air-blast that exploded came up?

A. There was a conference with reference to that, yes, sir.

Q. Wasn't Mr. White interrogated as to whether his company had decided to stand that expense or not? A. I believe that is correct, yes, sir.

Q. And when he announced that they thought the obligation to stand that was on the Gas Company, is it not a fact that Mr. Vance and yourself expressed yourselves as through with the bunch of them?

A. No, we were very much displeased and thought we were not treated justly in the matter. We thought the explosion was due to the carelessness of employees of the Construction Company, and they should pay for the repairs.

Q. And didn't you and Mr. Vance tell Mr. White

(Testimony of C. A. Luckenbach.)

then and there that they shouldn't be given any more time to experiment with that set, and must go ahead and test it and come up to the strict letter of the contract, or the machine would be thrown out?

A. I don't think so. Mr. Vance had nothing to do with the [284] acceptance or rejection of that machine, or the test.

Q. Or words to that effect?

A. I don't remember any such statements being made. I know Mr. Vance was very angry at that time, and my recollection is that I was somewhat annoyed, because I believed it was interfering with something that was in my own department. I do not mean to create the impression that Mr. Vance was interfering with my department, but that this was interfering with work going on in my department, and I left the office and went back to my own office. The interview that you refer to took place in Mr. Vance's office.

Q. Didn't either yourself or Mr. Vance on that occasion go still further and say that even if the machine did make good, or whether it did make good or not, that you folks did not propose to have it and that you would rather tear it up and throw it out upon the dump? A. Absolutely, no, sir.

Redirect Examination.

(By Mr. GOUDGE.)

Q. Reference has been made to the fact that Mr. Pederson was not on the ground or was not expected to be here at the time the test was to commence on March 10th. Was Mr. Pederson here at any time

(Testimony of C. A. Luckenbach.)

during the test from March 10th to March 30th?

A. I wouldn't like to say, Mr. Goudge, without looking over those matters. I don't recall whether he was or not. I think he was, but I won't swear to that positively.

Q. Now, Mr. Luckenbach, you were interrogated on cross-examination with reference to the preparation of the chute. You said the chute down which the bricks were delivered to the generator was perforated. By whom was that work of perforating the chutes done? [285]

A. By The Western Gas Construction Company.

Q. Under whose direction was the generator or this set erected at your plant?

A. The original erection was done under the direction of the man sent here by the Western Gas Construction Company. His name was—

Q. I don't care for his name. The changes that were made in the supplemental contract, under whose direction and supervision were they made?

A. The Western Gas Construction Company.

Q. And as to the men that actually worked on the matter of the erection and installation of this plant, by whom were they employed?

A. The Western Gas Construction Company.

Q. You spoke in your cross-examination of the bricks being air-dried. Were you referring to the bricks that were furnished and used in this test or the bricks for carbon in the gas works generally?

A. The bricks that were used in this test were taken out of a stack in the air and up to the time re-

(Testimony of C. A. Luckenbach.)

ferred to there had been no drying except such as might have occurred from air-drying.

Q. What do you mean by "up to the time referred to"? What time is that?

A. That letter of Mr. Pederson's in which he withdrew Mr. White's previous letter, asking that the wet bricks be delivered.

Q. Prior to that time the bricks had only been air-dried? A. Yes, sir.

Q. When were these bricks made?

A. Well, I couldn't tell exactly, but a great quantity of them were made prior to or about in July—at the time this contract was made,—immediately after the contract. [286]

Q. That is in July of the year before the test?

A. Yes, sir.

Q. And were these same bricks on hand during all that time? A. Yes, sir.

Q. The bricks that were furnished to the Gas Construction Company for use in this test during the test, were a part of this stock that had been on hand that length of time? A. Yes, sir.

Q. You said also that some of the bricks had more than 10 per cent moisture in them, and some bricks had less than 10 per cent moisture. What bricks were you referring to when you said that?

A. The bricks in this general pile.

Q. Does it also refer to the bricks furnished for use in this test?

A. When I spoke of the general pile I meant the pile used for this test.

(Testimony of C. A. Luckenbach.)

Q. When you say some of the bricks had more than 10 per cent, and some less than that, do you mean those actually used and delivered to them?

A. No, I mean before the drying was done.

Q. Then, it refers to the general stock of bricks you had on hand from July the year previous?

A. Yes, sir.

Q. Some of those were more than 10 per cent?

A. Yes, sir.

Q. The bricks delivered, what do you say about them?

A. There were none delivered containing more than 10 per cent moisture.

Q. Do you mean during the test of twenty days?

A. Yes, sir.

Q. (By the COURT.) When could they deliver any other?

Mr. CHAPMAN.—During those experimental tests. [287]

Recross-examination.

(By Mr. CHAPMAN.)

Q. You don't mean that that entire stock of bricks was made all in one month?

A. Oh, no. A lot of those bricks were there for a very long period of time. They may have been there before July.

Q. And you added to them up to the time of the test?

A. No. There is a letter here from Mr. Pederson written on a hotel letter-head, addressed to me, in which he states the quantity of brick that would be



(Testimony of C. A. Luckenbach.)

required, and at that time we had the quantity of brick on hand, and that was done to check up to see whether we would have it. Some bricks were added after that time, but there was a quantity on hand at that time.

Q. (By Mr. GOUDGE.) For identification, will you say whether that (handing the witness Plaintiff's Exhibit No. 9) is the letter you refer to?

A. Yes, sir; it is dated July 30, 1909.

Q. That says, "We shall require in the neighborhood of 3000 tons of carbon fuel for our run."

A. Yes, sir.

Q. At that time how much bricks did you have on hand?

A. I can't remember the quantity, but we had a quantity on hand at that time. [288]

[Testimony of Daniel W. Green, for Plaintiff.]

DANIEL W. GREEN, a witness called on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct Examination.

My name is Daniel W. Green; age, 38, and I reside in the city of Los Angeles. My occupation is that of Sealer of Weights and Measures for the city of Los Angeles. From the first to the thirtieth of March, 1910, I tested each morning the scales used by the Los Angeles Gas and Electric Corporation to weigh the carbon furnished by it to the generator set of the Western Gas Construction Company during said period, and found that at all times said scales were correct.

(Testimony of Daniel W. Green.)

I found that the scale was capable of weighing within thirty-five pounds of correct for each ton weight; in other words, that it took 2035 pounds of any commodity to weigh a ton on that scale on the first day of March. The scale was adjusted by us each morning at 8:00 o'clock. None of the representatives of the defendant company were present when these adjustments were made. It was necessary to adjust it every morning, and before we arrived there the gas company would have whatever accumulation of dirt or mud that had accumulated during the night removed during the night, so that it required a new adjustment of the lever or beam on which the weights were registered. [289]

**[Testimony of John Robinson, for Plaintiff.]**

JOHN ROBINSON, a witness called on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct Examination.

My name is John Robinson; age, 47, and I reside in the city of Los Angeles. My occupation is chief gas-maker for the Los Angeles Gas and Electric Corporation. I have held that position for the last five years. From March 10th to March 30th, 1910, I had charge of reading the candle-power of the gas produced during said period by the apparatus of the Western Gas Construction Company. The candle-power of the gas produced by said apparatus during said period was taken every two hours during the day and night, and at the end of each 24 hours the average candle-power produced for the

(Testimony of John Robinson.)

preceding 24 hours was computed. The average candle-power of the gas produced by said apparatus on March 10th, 1910, was 17.1; March 11th, 18.5; March 12th, 19.3; March 13th, 19; March, 14th, 19.2; March 15th the apparatus was shut down; March 16th the apparatus was shut down; March 17th, 17.9; March 18th, 19.3; March 19th, 18.9; March 20th, 18.9; March 21st, 19.3; March 22d, 19.5; March 23d, 19.9; March 24th, 19.7; March 25th, 18.4; March 26th, 19.2; March 27th, 20.2; March 28th, 19.6; and March 29th, 19. [290]

Candle-Power Readings of Water-Gas  
Produced from March 10th to 30th, 1910.

March.

	7AM	9	11	1PM	3	4	6	8	10	12	2	4AM
10	14	17	16.8	16.7	17.6	16	17	17	16	18.3	17.5	19
11	18.5	16	18	18	19.6	19.4	19	18.5	18	18.6	19	19.8
12	19.8	18.6	17.4	19	19.8	19.6	19	19.6	19.8	19.5	19.5	20
13	19.6	18.8	17.6	19.7	19.2	18.6	18.8	18.8	19	18.2	19	NR
14	19.2	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
15	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
16	17	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
17	14.5	15.4	16	17.3	17.5	18.5	18.3	18	19	19.5	19.2	19.5
18	19.5	19	20	19.2	19.4	19.5	19.6	19.2	18.2	19.3	19.5	19.6
19	19.4	19.2	19.6	17.6	18	19.5	19.5	18	18	19	19.2	NR
20	19.4	19.7	17.6	18	NR	18.7	19	19	18	19.6	19.6	19.6
21	19	19.6	19.8	18.6	19.6	18.5	19	18.5	19.5	20.5	19.6	NR
22	19.7	19.8	18.7	19.3	19.8	19.2	18.5	19.6	19.5	19.6	20.6	20.5
23	19.5	19.8	19.7	19.5	19.4	21	21	19.4	20.5	19.5	19.5	NR
24	20	19.8	19.4	19.7	19.7	20	19.5	19.5	19.8	19.5	19.5	NR
25	20.4	18.4	17.3	18	19.8	17	18	16.5	18	19.5	NR	19
26	18.5	17.2	18.1	19.3	19.8	20.2	19.5	19.3	19.3	19.6	19.6	20
27	17.8	17.8	19.5	20.6	19.8	20	22	22	21	NR	21.5	NR
28	21	20	20	19	19.4	19.6	19.6	19.2	19.5	19.5	19.5	19.3
29	20	20.2	20.4	19.4	19.2	19.4	17.5	17.5	18.2	19.2	17.2	19.6

(Note: The letters "NR" appearing in the foregoing table mean that at that hour no reading of the candle-power of the gas produced was taken.)

(Testimony of John Robinson.)

(Note: The letters "NR" appearing in the foregoing table mean that at that hour no reading of the candle-power of the gas produced was taken.)

(Witness continuing:) The foregoing readings were all made on what is known as a Sugg photometer, which is used to ascertain the candle-power of oil-gas as well as water-gas.

I also took part in weighing the material supplied to the generator. The wagon was weighed each morning and then the weights of the load together with wagon were determined and noted down upon a slip of paper and the weight of the wagon deducted. There was more or less accumulation of mud upon the wagons during that time and we did not clean that off every morning before weighing the wagon.  
[291]

**[Testimony of George Loveday, for Plaintiff.]**

GEORGE LOVEDAY, a witness called on behalf of the plaintiff being first duly sworn, testified as follows:

**Direct Examination.**

My age is 48. My occupation is engineer in the employ of the Los Angeles Gas and Electric Corporation. During the month of March, 1910, and especially between March 10th and March 30th, 1910, I took the thermometer readings of the temperature of the gas produced by the water-gas set of the Western Gas Construction Company during said period. This temperature was taken every hour of the day by myself and my assistant and a permanent entry thereof made on the record-book kept for said

(Testimony of George Loveday.)

purpose. The average temperature of the gas produced in said apparatus for the 24 hours subsequent to 6 A. M. of March 10th, 1910, was 77 degrees Fahrenheit; March 11th, 77 degrees; March 12th, 76 degrees; March 13th, 75 degrees; no temperatures were taken while the machine was shut down on March 14th, 15th and 16th. On March 17th the average temperature was 74 degrees; March 18th, 75 degrees; March 19th, 75 degrees; March 20th, 75 degrees; March 21st, 76 degrees; March 22d, 74 degrees; March 23d, 72 degrees; March 24th, 72 degrees; March 25th, 72 degrees; March 26th, 70 degrees; March 27th, 65 degrees; March 28th, 67 degrees; and March 29th, 68 degrees. [292]

**[Testimony of F. F. Reink, for Plaintiff.]**

F. F. REINK, called on behalf of the plaintiff, being first duly sworn, testified as follows:

**Direct Examination.**

I reside in the City of Los Angeles and am employed by the Los Angeles Gas and Electric Corporation at its gas plant. In March, 1910, I was employed as a helper in handling the lamp-black fuel used by the Western Gas Construction Company in its water-gas apparatus at the plant of the Los Angeles Gas and Electric Company. The form of the carbon or lamp-black used in the generator of said apparatus was brick form about two inches thick, four inches wide and about eight inches long, that is, about the size of an ordinary building brick. This lamp-black was hauled to the base of the fuel chute



(Testimony of F. F. Reink.)

of the generator of the Western Gas Construction Company in wagons. When this form arrived there it was still in the form of bricks. The fine particles of carbon which broke from these bricks as the same would slide down the chute into the generator was called waste. This waste fell through perforations in the bottom of the chute. These perforations were about two inches wide and about two feet long.

#### Cross-examination.

I cannot say that I noticed any difference between the carbon fuel brought there during the various nights or as to whether it crumbled up or not. The carbon all appeared to me to be about the same all the way through. Sometimes when we dumped the carbon into the fuel pit some of it lodged and you had to take a pole or something to punch it down, and possibly one or two of the bricks would thereby be broken. This fuel was dumped at the base of the chute [293] from the wagon by taking off the side-boards and some of the bottom boards from the wagon. I do not believe we ever had to shovel the fuel out of the wagons into the bin, although sometimes we threw the fuel out by hand into the bucket. The way in which record was kept of the weights of fuel was this: As the fuel was delivered at the set, the slip containing the weight was handed to the man in charge of raising it to the platform to be dumped into the generator, and he tabulated the weights on a card kept for that purpose. At the end of each day an estimate was made of the amount still on the platform and that amount was put down and carried

(Testimony of F. F. Reink.)

over to the next day and this was repeated each day throughout the test. [249]

**[Testimony of H. Contard, for Plaintiff.]**

H. CONTARD, a witness called on behalf of the plaintiff, being first duly sworn, testified as follows:

**Direct Examination.**

I reside in the city of Los Angeles, and am employed by the Los Angeles Gas and Electric Corporation. I was working for them during the last test of the water-gas set of the Western Gas Construction Company during March, 1910. I was engaged in handling the carbon fuel at the base of the fuel chute.

“Q. What shape was this fuel in that came in the wagon? What was it like—the fuel that came in these wagons? What kind of stuff is it?

A. It was good stuff—good brick—good dry brick, all right.

Q. Were they whole bricks or broken bricks?

A. Some were broke all to pieces, but very few. Most of it was all full brick.

Q. Do you know anything about the waste—the weighing of the waste?

A. They weighed the waste every time they fire up. They clean up the floor and shovel it on the chute, and they shovel that waste down on the car and run it on the scale and bring back the check—the weight slip.

**Cross-examination.**

“Q. You said the fuel was good material when it was delivered to you at the bottom of the chute?

(Testimony of H. Contard.)

A. Yes, sir, it was good material; it was in good shape when it came on the wagon. When we threw it down two or [295] three times it broke up.

Q. These wagons were driven over a pit, were they not, and the brick dropped down into the pit?

A. Yes, over a hole four or five feet deep, and they took off the boards of the wagon and it dropped down.

Q. A good many of the brick broke up when they fell down?

A. Yes, sir. They dropped down. It was pretty deep, and some broke up.

Q. And some days it would be worse than others?

A. Oh, I don't know. It looked to me pretty much the same. [296]

**[Testimony of Robert J. Fargher, for Plaintiff.]**

ROBERT J. FARGHER, a witness called and sworn on behalf of plaintiff, testified as follows:

Direct Examination.

I reside in the city of Los Angeles, and am employed as day foreman of the Los Angeles Gas and Electric Corporation, and was in their employ during the month of March, 1910. From March 10th to March 30th, 1910, I took the readings from the station meter, showing the gross amount of gas produced by the Western Gas and Construction Company in their water-gas apparatus during said period. Only the gas from the water-gas set of the Western Gas Construction Company passed through this meter during said time, and the readings of the

(Testimony of Robert J. Fargher.)

meter were taken at 6 A. M. each morning during said test; and all of the gas produced by said water-gas set during said period passed through this meter. Said meter accurately measured the gas which passed through it, and the measurements of said gas was indicated on said meter by a dial expressed in terms of 1,000 feet. At 6 A. M. on March 10th, 1910, the dial on said meter read 2,401,514; on March 11, 2,404,240; which would indicate that 2,725,000 cubic feet of gas passed through that meter during the said twenty-four hours. The reading of the dial on said meter at 6 A. M. on March 12th was 2,406,703; March 13th, 2,408,986; March 14th, 2,410,922; March 15th, 2,411,039; March 16th, 2,411,039; March 17th, 2,411,086; March 18th, 2,413,157; March 19th, 2,415,281; March 20th, 2,417,348; March 21st, 2,419,508; March 22d, 2,421,725; March 23d, 2,423,823; March 24th, 2,425,842; March 25th, 2,427,864; March 26th, 2,429,834; March 27th, 2,431,761; March 28th, 2,433,559; March 29th, 2,435,186; and March 30th, 2,436,484. [297]

#### Cross-examination.

The water-gas produced by the set of the Western Gas Construction Company went into a separate holder where there was no other gas. This holder was situated about 200 feet from the machine. The meter was about 50 feet from the holder. All my reports as to the meter readings were turned into the Chief Clerk, Mr. Bartlett. [298]

**[Testimony of A. R. Lynde, for Plaintiff.]**

A. R. LYNDE, called on behalf of the plaintiff, being first duly sworn, testified as follows:

**Direct Examination.**

I am in the employ of the Los Angeles Gas and Electric Corporation as engineer. I was so employed during the entire month of March, 1910, at which time I observed the temperatures of the gas produced by the water-gas set of the Western Gas Construction Company during the said month of March, 1910. I also took the pressure reading. The temperature of the gas produced was taken immediately after it left the meter. The pressure of the gas was taken just before it entered the meter. The pressure was taken by a Bristol Self-recording gauge. This instrument showed that on the 10th day of March, 1910, the average pressure of the gas as it entered the meter was 15.11, on March 11th, 14.9; March 12th, 15.44; March 13th, 15.27; March 14th, 15.27; March 17th, 15.02; March 18th, 15.5; March 19th, 16.07; March 20th, 15.3; March 21st, 15.3; March 22d, 14.6; March 23d, 15.2; March 24th, 15.3; March 25th, 15.33; March 26th, 16.6; March 27th, 16.54; March 28th, 14.8; March 29th, 15.1. The said Bristol Self-recording gauge correctly recorded the pressure of said gas.

[299]



**[Testimony of Joe Quinn, for Plaintiff.]**

JOE QUINN, a witness called for plaintiff, being first duly sworn, testified as follows:

**Direct Examination.**

I was employed by the Los Angeles Gas and Electric Corporation as teamster, at its gas works, during the month of March, 1910. I hauled the carbon brick fuel to the water-gas set of the Western Gas Construction Company, during the operation of said set in the month of March, 1910. This fuel was in the form of dry brick.

**Cross-examination.**

I hauled this brick from piles in the Center Street yard. The bricks there were stacked in piles or rows. These brick were dried by fires which were built around them sometime before the test commenced. The bricks were piled so that the air could go through them. They did not have a fire built around that part of the bricks which was in the Center Street yards. During these twenty days there was no fire around the bricks. They had all been dried before the test commenced.

Q. Did you handle the bricks carefully when you put them on the wagon.

A. Yes, sir. They were piled in rows and we had a fork with very fine tines, and we laid them carefully on the wagon.

Q. And if you hadn't they would have broken up?

A. Of course, the rougher you would handle them the more they would break up, but we handled them carefully. [300]

(Testimony of Joe Quinn.)

Q. Do you recall handling any hot brick there?

A. No.

Q. Don't you remember sometimes when you picked them out of the kiln or out of the pile when they were rather warm? A. No, sir.

Q. At no time whatever?

A. No, sir, no time during that last test.

Q. What happened when they fell down into the pit? Were they broken up any?

A. I can't say they were broken up very badly. We would unload our wagon and go on about our business.

Q. Do you know Mr. White, this gentleman that sits here? A. Yes, sir.

Q. Did you talk with him around there about the character of the fuel at any time?

A. Yes. He told me that the thing was going on pretty good.

Q. He said the test was going along pretty good?

A. Yes, sir.

Q. Never said anything about the character of the material you were hauling over there? A. No.

Q. Did he talk about the way you were handling the stuff and telling you to be careful?

A. We were always careful.

Q. I ask you if Mr. White did not comment on it?

A. I don't remember his telling me anything about it.

#### Redirect Examination.

Q. Did you haul brick from these piles indiscriminately just as you happened to please or choose, or

(Testimony of Joe Quinn.)

was there anything [301] that determined your selection of the piles from which to haul the brick?

A. We hauled from those piles upon which the foreman, Mr. Creighton, had placed his okay mark. [302]

**[Testimony of W. S. Mahard, for Plaintiff.]**

W. S. MAHARD, a witness produced and sworn on behalf of plaintiff, testified as follows:

Direct Examination.

(By Mr. GOUDGE.)

Q. Where do you reside?

A. 412 Bell Street. Age, 46.

Q. What is your business?

A. At present I am inspector in the Health Department.

Q. What was your business or occupation in March, 1910?

A. I was employed by the Los Angeles Gas and Electric Company as assistant chemist.

Q. On any particular or specific work?

A. Yes, the testing of the fuels used in the water-gas generator.

Q. To which reference has been made in this suit?

A. Yes, sir.

Q. You have been present and heard the testimony? A. Yes, sir.

Q. Referring to the test of the operations of this machine in March, 1910, state what you did with reference to testing the fuel that was furnished for use as fuel in that gas set from March 10th to 30th, 1910.

(Testimony of W. S. Mahard.)

A. Well, when I first started with the company it was probably three days previous to March 1st. There was a large pile of bricks that had been air dried—lying in the yard across [303] from the water-gas machine. I went over that pile very thoroughly and sampled it and made analyses, and I found that the top layers and the side layers of brick showed ten per cent and less of moisture. Down in the interior these bricks, a great many of them, contained more than ten per cent moisture. And then the company took measures to dry those bricks and bring the moisture down to less than ten per cent, and that was done, and I made all the analyses and took all the samples. I took every sample myself and made every analysis myself of every pound of fuel used in this test from the beginning to the end.

Q. Starting March 10 or immediately prior to March 10, you made analyses and tests of the water content of the fuel that was furnished to this set?

A. Yes, sir.

Q. How often and in what manner did you indicate, if at all, any particular place or piles of fuel that were above or below ten per cent moisture? Did you make any record of it or did you notify anyone?

A. Why, yes. For instance the bricks were being dried, and I made assays every day of the various piles as they were being dried, and such piles—they were built in the form of kilns—and as the piles or bricks assayed less than ten per cent moisture, that pile was marked “O.K.” by the direction of the fore-

(Testimony of W. S. Mahard.)

man, Mr. Creighton, and no further tests were made on that pile, and the tests were continued till all of the fuel to be used in the test assayed less than ten per cent moisture.

Q. These tests that you speak of that were made daily were made of the piles of fuel that were situated where?

A. They were situated in the briquet yard directly across from this water-set.

Q. Did you make any further test of the moisture content [304] of the fuel used in this set, except these daily tests of the carbon in the piles that you have spoken of? If so, what?

A. Well, I made tests of the brick as they came from the machine to show the percentage of moisture in the bricks as they came from the machine, and the analyses of the briquets in various stages of drying.

Q. After these piles were O. K.'d, I understand that when you found a pile containing less than ten per cent moisture, that pile was O. K.'d?

A. Yes, sir; although the drying was kept on for some time, to be sure.

Q. After that, was any further subsequent test made? A. Yes, sir.

Q. If so, state what it was.

A. Two bricks were taken from each wagon-load delivered at the machine, and each brick was split in two at the center, and particles were broken off from the inside of each brick. Those samples were put in a large tin or galvanized iron can, and at the end of the day—the end of the run—they were taken out and



(Testimony of W. S. Mahard.)

crushed up and mixed together and pounded up, and an average sample taken of the whole lot in order to determine what the average analysis of that sample was.

Q. Did you make that determination, too?

A. Yes, sir.

Q. So that I understand that you tested the brick in the piles and the piles were O. K.'d, and from the piles the brick was hauled to the generator, and from each load hauled to the generator a couple of bricks were taken and a portion of the bricks taken and put in a can and at the end of the run you again tested the can?

A. Yes, sir. The daily assays were made.

Q. And in that daily assay of the samples taken, how much [305] of the brick was tested and showed over ten per cent moisture?

A. None whatever.

Q. And how much of the brick in the piles that were O. K.'d showed over ten per cent moisture?

A. None of them at all.

Mr. GOUDGE.—That is all.

Cross-examination.

(By Mr. CHAPMAN.)

Q. You mean after the drying process?

A. Yes, sir.

Q. Are you still employed by the gas company?

A. No, sir.

Q. Are you related to any of the officers of the company? A. Yes, sir.

Q. To whom?

(Testimony of W. S. Mahard.)

A. Mr. Luckenbach, the manager of construction.

Q. (By the COURT.) What relation?

A. My brother-in-law.

Q. (By Mr. CHAPMAN.) Do I understand you to say that besides the analyses of these bricks that were in these kilns that you also made analyses of the brick as they came from the machine?

A. Yes, I did.

Q. I mean by that the brick-making machine.

A. Well, that was previous to the general test. Yes. I have made independent analyses of the green brick.

Q. Both for moisture and other contents?

A. Well, only for moisture.

Q. You said something also about making tests during the various stages of drying.

A. Yes, sir. [306]

Q. What were the various stages of drying?

A. The various stages of drying. The drying consisted, as I stated previously—the bricks were piled in the form of a kiln. The fires were placed inside and the drying process begun. Samples were taken every day and I made my assays every day of those piles continuously until the moisture content assayed below 10 per cent. On some of those kilns I made as high as nine or ten assays before they were below ten per cent moisture.

Q. Was there any drying of the material before the bricking?

Mr. GOUDGE.—I object to that as not cross-examination.

(Testimony of W. S. Mahard.)

The COURT.—The objection is overruled.

A. I don't know.

Q. (By Mr. CHAPMAN.) Do you know what the percentage of moisture was in the material at the time the material was put into the bricking machine?

A. Why the content of moisture is variable. In some bricks it would be—well, it would be variable. You couldn't set any specific amount of moisture.

Q. Couldn't you give us an idea of the general run of moisture of the material just at the time or just before the time it was put into the bricking machine?

A. No, sir, I could not. I do not remember.

Q. Did you ever make any analyses of it?

A. I have, yes, sir.

Q. What does it show?

A. I don't remember.

Q. Did you keep any record of it?

A. I presume I did. I don't know whether I did or not.

Q. Have you any record in that little book?

A. I have a record in here, yes, but I haven't looked at it yet. [307]

Q. Please examine it and tell me what the result of your analysis was. What is the amount approximately and in the general run of it? Confine your answer to the investigations that you made to the test. Did you examine this material before it was bricked and ascertain anything about the moisture before it went into the bricking machine?

A. No, sir.

(Testimony of W. S. Mahard.)

Q. The material was handled in the same way before the test as it was during the test, wasn't it?

A. What do you mean?

Q. Well, it was put in the machine before the test while you were there and when you made your examinations, approximately in the same condition as it was during the test? I will withdraw that. When did you examine any of this material as to its moisture before it was bricked?

A. Well, I think—in fact, I know I made some determination previous to the beginning of the test.

Q. Can you give us the general result?

A. No, I cannot.

Q. Well, approximate it. You know whether it was fifty or sixty or seventy per cent?

A. No, I can't state. I don't remember.

Q. Between what limits of moisture?

A. I cannot state.

Q. Do you know whether it was more than fifty?

A. It was over ten per cent.

Q. Do you know whether it was more than fifty per cent or not?

A. I don't recollect. I don't pretend to remember all those figures.

Q. You have no memorandum with you?

A. No, sir. [308]

Q. After the bricks came out of the press, how long were they allowed to stand before the external fire was applied to them?

A. Do you refer to the bricks used in this test?

Q. Yes, sir. A. I don't know.

(Testimony of W. S. Mahard.)

Q. You were not there at that time and know nothing about that?

A. I don't know anything about it at all.

Q. Isn't it a fact, Mr. Mahard, that they were bricking this material all the time and drying it and preparing it for this generator all the time you were there?

A. I don't know. I can't state. But I think they were.

Q. And after they bricked it up, what did they do with it?

A. It was built in kilns and dried. But whether that particular brick was used in the test or not I don't know.

Q. Did you make any analysis of any bricks immediately after they came out of the machine—green—as you have described them?

A. I think I have, but it was preliminary to this official test.

Q. Give us the general result of what you found.

A. I don't remember it. I told you that before.

Q. Well, any result that you got from the examination of it.

A. I don't remember. It was over ten per cent moisture.

Q. How much over? A. I don't remember.

Q. How is it that you recall so distinctly about the extent of moisture in these kiln bricks and have no idea—not even a general idea—as to the result of your other determination?

A. That is a very hard question to answer. I can-



(Testimony of W. S. Mahard.)

not [309] state how I can remember anything; neither can you.

Q. That may be so. You mean to say—did you make these tests of the green brick and the material before it was bricked just for pleasure, or did you have some object in mind?

A. Was I doing it for pleasure?

Q. Yes.

A. I don't suppose I was. It was simply to inform myself.

Q. But that information that you did get has entirely passed out of your mind?

A. Why, it has, sure.

Q. How do you make these determinations; by weight? A. The same as any other chemist would.

Q. That is perhaps very enlightening to a chemist.

A. You asked me how I made it. If you want me to go into the details, I will be pleased to give them to you.

Q. Answer the question. How do you make it?

A. The samples as I stated, were ground and prepared for the test in the laboratory. Two grammes of the sample were taken and weighed on the balance in the laboratory, and placed in a porcelain dish, and the sample placed in an oven that was kept at a temperature of 105 degrees centigrade for one hour. At the end of that period the dish was taken out of the oven and placed in a drying apparatus and cooled down to normal temperature. It was then weighed again and the loss in weight in grammes or fractions of a gramme divided by the weight taken

(Testimony of W. S. Mahard.)

and multiplied by one hundred would be the per cent of moisture. That would be the loss in weight.

Q. You made the statement during the course of your direct examination that every pound that went into the generator was analyzed by you. Do you mean that?

A. No, I won't state that. You probably misunderstood the purport of my answer. [310]

Q. You simply meant that you took a sample every now and then? A. I took a sample, yes, sir.

Q. The outside layers of these kilns—

A. No, sir, the inside of the brick. I testified to that.

Q. The outside layers of the kiln, I believe you said, had been air dried, and were practically—I believe you said in all cases were less than ten per cent moisture? A. I said no such thing.

Q. What do you say about the outside layers?

A. I was speaking of the piles of bricks in the yard.

Q. What did you say about the outside layers?

A. I said the outside layers were drier than the inside layers.

Q. What percentage of moisture did you find in the outside layers?

A. In the pile of bricks that had been laying in the yard, according to my information, for some time, the outside layers were low in moisture. And down in the interior of the piles they were high in moisture. That is in comparison.

Q. So that the outside layers were removed and

(Testimony of W. S. Mahard.)

the inside layers subjected to fire drying?

A. Yes, sir.

Q. Was that drying done under your supervision?

A. It was done under the supervision of the foreman, Mr. Creighton.

Q. You indicated what portions of the brick needed further drying, and he provided for it?

A. Yes, sir.

Q. Can you state approximately, in a general way, what the general run of moisture was in the interior bricks before they were kiln-dried? [311]

A. I can by referring to this report.

The COURT.—You seem to distinguish between different piles of brick.

A. Your Honor, I said that when I first began the test, there was an immense pile of briquets lying in the yard across from where this machine was in operation, that had been lying there piled up for a considerable period of time. After I first started in at this work, I made analyses of this pile to get an approximate idea how the assays would run on this pile of brick, to see if the assays of moisture in that pile was ten per cent or whether it was greater. I took samples—

Q. (By the COURT.) Where were the kilns with relation to this—

A. The kilns had not been built at that time.

Q. Was this pile of brick all used in the test?

A. Well, that immense pile was used in these tests.

The COURT.—Very well. Now go on, Mr. Chapman.

(Testimony of W. S. Mahard.)

Q. (By Mr. CHAPMAN.) And was there any other besides that immense pile that you referred to used in this test?

A. I am not sure, but I think so.

Q. Now, can you answer the question in a general way? What was the water content of the interior bricks before being kiln-dried?

A. Do you mean the interior of this pile?

Q. Yes, sir.

A. I can state by referring to the report. Referring to the date of February 26, 1910, the first layer on No. 1 pile marked section 1 and 2, assayed 4.7 per cent moisture. Layer No. 2, which was deeper in the pile, ran eight and a half per cent. Layer No. 3 ran 10.5 per cent. Layer No. 5 ran 10.2 per cent. Then on the same day on Section 3, layer [312] No. 1, 4.7 per cent. The second layer, 11 per cent. Layer No. 3, 15.75 per cent. Layer No. 5, 17.5 per cent—that is practically all of the analyses I made on those piles.

Q. May we see your memorandum, please? Is this all that relates to this test? A. Yes, sir.

Q. These figures in the center are moisture?

A. The figures I was reading from are marked percentage.

Q. One or two of them ran as high as twenty-two or twenty-three per cent? A. Yes, sir.

Q. And down as low as three per cent?

A. Yes, sir.

Q. Do you recall that you had some rain storms during the test?

(Testimony of W. S. Mahard.)

A. Yes, they had some slight sprinkles—some light rains during the test.

Q. And that necessitated the application of additional fire?

A. Yes, sir; but the piles were covered during rains with tarpaulins and with sheet iron. The piles were carefully guarded from the rains by tarpaulins and by iron sheeting.

Q. Do you know the specific gravity of this lamp-black?

A. No, sir, I never made a determination of the specific gravity.

Q. Do you ever weigh the bricks?

A. No, I never did.

Q. Could you give us any idea of the comparative weight of the bricks after they were dried and before they were dried? A. No, sir, I cannot.

Mr. CHAPMAN.—That is all. [313]

**[Testimony of F. S. Wade, for Plaintiff.]**

F. S. WADE, called on behalf of the plaintiff, being first duly sworn, testified as follows:

**Direct Examination.**

(By Mr. GOUDGE.)

Q. State your name, age and place of residence.

A. F. S. Wade; 127 East Wilson Avenue, Hollywood, Hollywood Station, Los Angeles.

Q. What is your business or occupation?

A. Chemist, Los Angeles Gas and Electric Corporation.

Q. How long have you held that position?



(Testimony of F. S. Wade.)

A. Slightly over six years.

Q. Have you had any technical education as a chemist? If so, what?

A. I am a graduate of the University of Southern California. My major course at that college was in chemistry.

Q. What kind of chemical work have you done for the Los Angeles Gas and Electric Corporation or the Los Angeles Gas and Electric Company during your six years' connection with those corporations?

A. I have done general chemical analysis in connection with oil-gas and water-gas manufacture,—a great variety of chemical work. It would take a considerable time to enumerate all of it.

Q. And during that time have you devoted any time or attention to the study of organic chemistry or the chemistry of the hydrocarbons?

A. I have attempted to read chemical journals as they have been issued.

Q. During the period from March 10, 1910, to March 30, 1910, did you make any observation of the gas produced by The Western Gas Construction Company's water-gas set that was being [314] tested at this time?

A. I made quite a number of tests of different natures.

Q. Do you know what the practice in the gas-making business is with reference to the standard of measurement of gas, referring particularly to the standard, if any standard exists, of pressure and temperature at which gas is commonly measured in

(Testimony of F. S. Wade.)

the trade? Please say yes or no to that.

A. Yes.

Q. State what is the standard temperature and barometric pressure or temperature and pressure at which commercial gas is probably and usually measured according to the custom of the trade, and art of gas manufacture, in this country.

A. The standard temperature for the measurement of gas is 60 degrees Fahrenheit, and the standard pressure is 30 inches of mercury.

Q. By the latter I understand you to mean the pressure equivalent to an atmospheric pressure when the barometer would read 30?

A. When the barometer would read 30 inches, yes, sir.

Q. Did you make any determination or observation, or were any determinations or observations made under your direction of the measurement of the gas produced by the water-gas set installed by The Western Gas Construction Company and being operated and tested in the Los Angeles Gas and Electric Corporation's works in the period from March 10th to 30th, 1910?

A. I made observations of the barometric pressure. That is, so far as I made observations personally.

Q. You say you made observations of the barometric pressure?

A. The barometric pressure of the atmosphere.

Q. How often during that time?

A. Once a day. [315]

(Testimony of F. S. Wade.)

Q. Did you make any record of it or have any record made of it?

A. I have no definite record of the readings that I actually made for the correction of this gas volume.

Q. I am directing your attention now to the barometric pressure of the atmosphere during that period. Did you make or have any records made?

A. There was a record made of the barometric pressure in the laboratory every morning at 8 o'clock.

Q. During that period?

A. Yes, sir, with the exception of Sundays.

Q. I will ask you if you can produce any such record that was made by you or under your direction or control?

A. Yes, sir. The regular gas announcers sheet shows in the last item the barometric pressure as read in the laboratory every day at 8 o'clock.

Q. On each of the days mentioned on the sheets?

A. On each of the days mentioned on the sheets, yes, sir.

Q. Will you from this record read the barometric pressure on each of the days recorded on these sheets, giving the date and the barometric reading for that day?

A. March 10th, 29.59; March 11, 29.62; March 12, 29.65; March 14, 29.73; March 15, 29.70; March 16, 29.70; March 17, 29.62; March 18, 29.53; March 19, 29.64; March 21, 29.55; March 22, 29.58; March 23, 29.67; March 24, 29.65; March 25, 29.59; March 26,

(Testimony of F. S. Wade.)

29.67; March 28, 29.71; March 29, 29.75; March 30, 29.77.

Q. Now, Mr. Wade, does the volume of the gas, particularly the water-gas produced by such a set as this referred to in this action, vary with the pressure to which it is subjected?

A. The volume of gas varies inversely as the pressure.

Q. The greater the pressure, the less the volume of gas? [316]      A. Yes, sir.

Q. Is there a constant relation between the pressure and the volume of water-gas such as produced from this water-gas set?

A. There is assumed to be.

Q. And, giving the actual pressure existing, are you able to calculate—and the volume existing—are you able to calculate the volume of that same gas at another pressure than 30 inches pressure?

A. Yes, sir.

Q. Is there any constant relation between the temperature of such a gas as this and its volume?

A. Yes, sir; any gas varies directly as the temperature.

Q. The greater the temperature, the greater the volume?      A. Yes, sir.

Q. And, given any particular temperature of the gas—I am speaking of water-gas produced by this set—and its volume, are you able to calculate the volume it would have at any other given temperature?      A. Yes, sir.

Q. Did you have anything to do with correcting

(Testimony of F. S. Wade.)

the measured volume by meter of the gas produced by this set and reducing the observed volume to the corrected volume that the same gas would have at a pressure equal to 30 inches of mercury and a temperature of 60 degrees Fahrenheit during the time of the test of this apparatus?

A. I applied the corrections.

Q. State what you did in that respect during the period of this test?

A. I obtained first the amount of gas made as shown by the station meters, and as it is indicated on the sheets kept by the clerk at the works. I took that volume and multiplied it [317] by the proper correction factor, which correction factor is obtained from well-known tables in gas text-books. The pressure was obtained by taking the barometric reading for the day and adding to that barometric reading a number equal to the inches of water pressure on the gas at the station meter, divided by 13.

Q. How was that water pressure of the gas at the station meter obtained?

A. The pressure on the gas at the station meter was ascertained by the Bristol recording gauge that was installed at that time. The charts were averaged by the clerk in the office, and I took the average figures. The temperature for that correction was taken from the sheet that was kept in the exhaust room and handed in to the office every morning and averaged. When I obtained that date, the temperature and pressure, I made the necessary figures



(Testimony of F. S. Wade.)

from which to obtain the correction factor. And by multiplying the volume of the gas by this correction factor I got the corrected volume of gas.

Q. And by "corrected volume of gas" you mean the volume the gas would have had if it had been measured by a pressure of 30 inches of mercury and at a temperature of 60 degrees Fahrenheit?

A. Yes, sir. [318] Mr. Bartlett, the clerk at the works who keeps the manufacturing record, furnished me with the records as to the meter readings, temperature and pressure readings.

Q. And to whom, if anyone, did you communicate the result of your correction calculation?

A. I communicated it to the stenographer of the Superintendent of Gas Manufacture, who put it on a typewritten sheet as it was kept as a regular record.

Q. In whose charge or custody was that? In whose department or whose custody was that record?

A. That was a record of the Superintendent of Gas Manufacture, as well as the office of the chief clerk and bookkeeper.

Q. What is his name?

A. Bartlett. There are various copies of this record.

Q. Did you make any examination of the moisture content of the fuel furnished to this gas-set during the period of this test?

A. I think I made a very few tests myself of the carbon furnished.

Q. For the moisture content? A. Yes, sir.

(Testimony of F. S. Wade.)

Q. Was that during the test?

A. During the test. I think I made a very few, but I had an assistant at that time who made all the regular tests. [319]

Q. Who was that? A. Mr. Mahard.

Q. Mr. Wade, reference has been made during the testimony here to an instrument called a Sugg photometer. Do you know of such an instrument in use at the gas works? A. Yes, sir.

Q. Are you familiar with the construction and use and theory of photometers generally?

A. I think so.

Q. And have you used such instruments of various kinds? A. Yes, sir.

Q. State whether or not the Sugg photometer of the type in use at the gas works during the period of March 10th to March 30th, 1910, was an instrument capable of showing and which did actually show the candle-power of gas tested by it.

A. It was an accurate instrument as it was calibrated at the time of that test.

Q. Did you have anything to do with calibrating it?

A. I originally calibrated the instrument.

Q. And you say at the time of the test it did accurately record the candle-power of the gas tested by it?

A. It is my opinion that it accurately recorded the candle-power.

Cross-examination.

I don't know that the Sugg photometer is an old,

(Testimony of F. S. Wade.)

antiquated instrument, nor do I know of any specific case of a Sugg photometer being in use. The principle upon which it operates is this: It measures the quantity of gas which is necessary to maintain a flame of a continuous size for a minute's time, and that measurement is expressed directly in candle-power on an arbitrary scale on the instrument itself. As the original unchanged instrument was constructed by Mr. Sugg he took, for [320] instance, a sixteen candle-power gas that he had ascertained to be sixteen candle-power by reference to the bar photometer, and then applied it to his instrument. He found that gas of that candle-power flowing at the rate of five cubic feet per hour through his meter, in order to sustain the flame of the gas at a certain height,—it would in the course of a minute stop at a certain point, which he marked sixteen; and then he made other calculations to fix the point where the dial indicator should stop in order to indicate different candle-power gas. The instrument was originally designed for coal-gas, and the instrument we had was originally calibrated for coal-gas and we corrected it for both water and oil-gas as well as mixed gas. We measured all three of these gases on the same instrument, and measured them by simply turning one or the other gas into the instrument and running it for a minute, and then read it, after allowing the proper time for the gas burned before to be expelled from the machine—five or ten minutes. After the proper interval of time had elapsed to allow the previous gas to be blown out,

(Testimony of F. S. Wade.)

in order to read the water-gas, we would simply turn on the cock that supplies the water-gas and read it, and then if we wanted the oil-gas read, after allowing a sufficient interval for blowing out previous gas, we would turn the cock that supplies the oil-gas and read it in the same manner; and the same is true with respect to reading mixed gas. In reading the different gases it is always necessary to adjust the lever which controls the flow of gas, so as to maintain the volume at the right height. The lever was not in the same position for the different gases. For instance, for the oil-gas we would adjust the pressure, or something, so that the top of the flame would stand at a certain level, and when we measured the water-gas we would make the same adjustment, so that the flame would stand at the same [321] level, and that is the only change of the instrument which is made for measuring these various gases. The specific gravity of water-gas is not the same as oil-gas. Approximately the oil-gas is about .35 and the water-gas is about .48 to .50.

Q. Now, I will ask you if the flame of the water-gas of the character made in this machine during this test maintains the same flame-height for a given quantity of gas flowing at a given rate?

A. I think not.

Q. What is necessary in order to make the water-gas flame conform, so far as height is concerned, to that of an oil-gas?

A. It would be necessary to increase the size of the orifice, or else increase the pressure.

(Testimony of F. S. Wade.)

Q. So that a greater quantity of gas is necessary to be supplied in order to raise the flame of the water-gas to a certain elevation than with respect to oil-gas?

A. Not a greater quantity. Didn't you say something about pressure in your first question? I may have misunderstood your question.

Q. I have reference to what was necessary to be done. Was it necessary to increase the pressure or the quantity of gas supplied?

A. I couldn't say as to the quantity of gas.

Q. You said it was necessary to increase the orifice?

A. For a given pressure it would be necessary to increase the orifice to pass the same amount of gas through the same size orifice—

Q. In order to maintain the flame at a particular elevation? A. Yes, sir.

Q. And that would necessarily take more gas—a greater orifice under the same pressure? [322]

A. A greater orifice under the same pressure would take more gas. Yes, sir.

Q. Would you maintain the pressure at the same point when you adjust this instrument by adjusting the orifice?

A. The only adjustment is made to maintain the flame at a given height. I don't know whether there is any change in the pressure or not. There may have been.

Q. In order to ascertain the candle-power, do you take any note or observation of the temperature of the gas at the time it is being supplied?



(Testimony of F. S. Wade.)

A. In making the test with the bar photometer that correction is always made. This Sugg machine is kept in the basement where the temperature is fairly constant, and I attempted to calibrate that so that no correction would be necessary, and so that the generator-men—the chief generator-man would not have to apply corrections and could enter their reading.

Q. For the pressure was there any variation made?

A. Not on this particular instrument.

Q. Wouldn't that cut some figure, Mr. Wade?

A. If there was any serious change in the pressure, it would, but the practice is the same. It is maintained the same. The gas has always been taken from the same place and under practically the same pressure, so if this instrument is calibrated to register accurately under working conditions, it should continue to register accurately under those working conditions.

Q. In other words, you assume that the pressure and temperature were so nearly constant that you could waive any correction in reading the candle-power? A. By this method, yes.

Q. In other words, Mr. Wade, isn't it a fact that this instrument is intended merely as an approximation sufficiently close for practical purposes and your general necessities? [323]

A. My experience with the instrument is that it is accurate within plus or minus of a quarter of a candle-power.

(Testimony of F. S. Wade.)

Q. Wouldn't there be considerable variation depending on the kind of gas you were reading?

A. If there was any serious change in the quality of the gas—if an entirely different gas were used, a gas to which the instrument had never been applied for testing—there might be a serious change.

Q. Isn't there a very marked difference in the chemical composition, specific gravity and all characteristics between water-gas and oil-gas?

A. There is a very considerable difference in composition between the two gases, but on account of the balancing conditions, they don't seem—a flame of constant size of water-gas seems to give off practically the same light as a flame of constant size of oil-gas.

Q. I am referring now to a Sugg photometer, and also a jet photometer. (Reading:) “Now, both these methods are subject to the same objection—namely, that they are only inferential tests, based upon the diffusive power of gas through fixed apertures, and fall to the ground if there is a variation in the relation between the specific gravity and the illuminating power of the gas to be tested. Now, that water-gas is largely used, it has been found that this relation, which was supposed to be a fixed one, is upset; and with pure water-gas or water-gas mixed with coal-gas a three-inch Argand flame at five feet per hour does not represent 16-candle gas, and a 7-inch jet flame .625 pressure does not represent 16-candle gas. The jet photometer and the illuminating power meter, therefore, are not only useless

(Testimony of F. S. Wade.)

where water-gas is made, but absolutely harmful, as their indications are unreliable." Do you think that that is a correct statement of the accuracy or lack of accuracy of that instrument? [324]

A. I am familiar with that. I would say that it is a correct statement as far as it applies to the jet photometer. As applied to the Sugg photometer I would say it is incorrect, because they are not based on the same principle. Certainly not as we use the illuminating power meter.

The COURT.—That is, the Sugg instrument?

A. Yes, sir.

Q. (By Mr. CHAPMAN.) I will ask you if this is not a correct statement of the principle upon which the Sugg photometer operates, and the manner in which it was devised. (Reading:) "In about the year 1876 Mr. Sugg introduced this instrument, which undoubtedly is a very useful one. It is based on the principle that if a 3-inch plane in a standard London Argand burner is maintained by gas passing at the rate of five feet per hour, the quality of the gas is 16-candle power, the candle power varying according to the rate at which the gas under test passes, in order to keep a certain constant flame. The principle, it will be seen, is the same as a jet photometer, for in a jet photometer the quality is proportionate to the pressure necessary to maintain a 7-inch jet, and since a given pressure is equal to a given consumption, the method is the same, though applied in the one case to an Argand burner and the other to a jet flame. It is much easier, however, to adjust the

(Testimony of F. S. Wade.)

flame in the jet than to accurately gauge the flame of an Argand burner." Is that your understanding of the principle upon which the Sugg photometer operates and the manner in which it was devised?

A. As to the manner in which it was devised, that is the only evidence I have of it. That is, the statement in that book. I presume it is correct.

Q. And what about the principle on which it is operated?

A. The principle on which it was originally operated with a 3-inch flame, that is undoubtedly correct. But the manner in [325] which we operate the instrument, we use very much less than the 3-inch flame, and the height of that flame has been determined simply by a comparison with the gas to be tested with the bar photometer. It is an arbitrary instrument and the method used is arbitrary. But it has been found by my experience to be sufficiently accurate and well within the limits of ordinary error in observing such matter.

Q. Instead of maintaining the volume at 3 inches you observe it at some other elevation less than that, but you do maintain the flame of each gas, water-gas and oil-gas, at exactly the same point in making these readings? A. Yes, sir.

Q. You mean to say that without any adjustment of the instrument other than simply raising the quantity of gas supplying the ordinary pressure to maintain the flame of either gas to that particular point—that that instrument will measure the candle-power of water-gas with like accuracy as it measures the

(Testimony of F. S. Wade.)

oil-gas? In other words, it will measure both of them and be approximately correct?

A. It will measure both oil and water-gas as made from California petroleum—oil-gas made from California petroleum and water-gas made from California petroleum and carbon by-products—and it will measure both with approximate accuracy.

Q. To which did you calibrate your instrument when you made your comparison with the bar photometer? A. I compared it with all three gases.

Q. You mean mixed?

A. Water-gas, oil-gas and mixed gas.

Q. And you mean to say that it showed an accurate reading of all three of those gases as compared with the bar photometer, without any variation depending on the gas you were using?

A. Accurate within a quarter of a candle-power.  
[326]

Q. As to each gas? A. Yes, sir.

Q. In other words, the different gases that you applied made no difference in the accuracy of the reading of the instrument as compared with the bar photometer.

A. No serious difference.

Q. Did it make any difference?

A. It may have made a difference of two of three-tenths of a candle-power, but I set the flame at a point where it is accurate within a very small error on one side or the other for all three gases.

Q. Averaged it up, is that correct?

A. Averaged it up.



(Testimony of F. S. Wade.)

Q. You have already stated, I believe, that the indicator—that the place at which it stopped is dependent on the quantity of gas that passed through the instrument in one minute?     A. Yes, sir.

Q. How do you explain then, if that is the fact, why it is that the candle-power measured on the water-gas, which takes more gas in a minute to maintain a flame to the point of elevation at which you fixed it, than it would to maintain the flame of the oil-gas—

A. I don't believe I said it would take more water-gas to maintain a flame at the same height. I think I said it would take a larger orifice to pass the same amount of water-gas.

Q. I believe you said you were familiar with this book that I was using in framing two of the questions that I put to you?     A. Yes, sir.

Q. A work entitled "Gas Analyst's Manual, by J. Abady," published in 1902. Is that a standard authority on the subject?

A. That book has a very wide use. It would be difficult for me to say it was a standard authority. It is widely used. [327]

Q. You mean in the profession it is made use of by the professional men widely?     A. It is, yes.

Q. Is the chemical composition of oil-gas and water-gas produced there in your plant more or less uniform?

A. The chemical composition is remarkably uniform.

Q. Can you give us in a general way the average

(Testimony of F. S. Wade.)

composition—the analysis—of this water-gas?

A. In a general and approximate way.

Q. About 20-candle power gas?

A. Water-gas?

Q. Yes, sir.

A. Carbon dioxide, 8 per cent. Illuminants, 7.5 per cent; oxygen, .5 per cent; carbon monoxide, 27 per cent. I will have to arrive at the hydrogen by the difference, so as to make it a hundred. There is a methane and nitrogen, and we will add up and take the difference as hydrogen.

Q. You have 47 per cent now.

A. Methane, 17 per cent. Nitrogen 2 per cent. Did you say I had 47?

Q. Yes, this makes 66.

A. 34 per cent hydrogen.

Q. When you say illuminants, what gas do you refer to?

A. Unsaturated hydrocarbons absorbed by bromide in analysis. It is a mixture of a considerable number of various vapors.

Q. And what would predominate?

A. I couldn't say what would predominate. The text-books assume that ethylene predominates, but I doubt very much if that is very well founded.

Q. Those are gases that are rich in carbon?

A. Yes, sir, they are rich in carbon.

Q. Now, your oil-gas? [328]

A. Carbon dioxide 2 per cent; illuminants, 4 per cent; oxygen .5 per cent; carbon monoxide, 10 per cent, methane 32 per cent; nitrogen, 1.5 per cent;

(Testimony of F. S. Wade.)

hydrogen for the difference, would make 100.

Q. I call your attention to one of the sheets that was submitted to you by counsel in connection with the barometer readings, on which appears to be the statement of the composition—what is that? Oil-gas?

A. That is mixed gas.

Q. Is that a fair sample or representative of the composition of such gas?

A. No, I don't think it is. This question of getting a representative sample of mixed gas is very difficult, because at times the water-gas and oil-gas do not all come down to the storage plant at constant rates, so that the gas we get back at the laboratory is apt to have very different percentages of oil and water gas than the percentage indicated at the end of the day's run of the two makes.

Q. They vary considerable at that point?

A. The mixed gas varies in proportion of the mixture of oil-gas and water-gas—considerably.

Q. I am referring to the making of gas from oil. Is it correct to say “as a general rule, American oils give the best results when gasified at a lower heat than shale oils, and the latter at a lower heat than Russian oils. The results of the tests should be calculated to give the number of candles produced from a gallon of oil by the gas burning at the rate of one cubic foot per hour. As this rate is usually too low for oil-gas the candle-power at the actual rate of consumption is taken, and the nominal candle-power at the rate of one cubic foot per hour is arrived at by calculation. The product of the number of candles

(Testimony of F. S. Wade.)

at this rate and the volume of gas per gallon of oil, gives a figure which represents the "candles per gallon" [329] "obtained from an oil." Is that the proper way to state the candle-power efficiency, in expressing candle-power of a gas machine?

Mr. GOUDGE.—We desire to object to the question as not cross-examination, irrelevant and immaterial. The quotation counsel has read is manifestly, if your Honor was able to hear it and follow it, directed to an investigation and inquiry into the relative qualities of oil. The quotation begins by saying the way to compare the efficiency of shale oil and Russian oil is to observe what illuminating power you get from given quantities, or how much gas you get of a certain illuminating power from given quantities of these respective oils. It is an inquiry into the value of petroleum or rock oil for gas-making purposes. The machine that we are concerned with is a water-gas machine in contradistinction with an oil-gas machine which water-gas is produced from carbon and steam and not from oil. Further, this quotation does not purport to say that that is the method of ascertaining the illuminating power of gas, but it is a good method to ascertain the value of oil that you may be using, and it is irrelevant, immaterial, and also not cross-examination, because we have not directed his attention to any matter concerning the qualities of oil and the result from using different quantities of oil. And our contract also calls not for the production of any particular results from a particular quantity of oil, but it calls for a gas of a

(Testimony of F. S. Wade.)

certain illuminating power—20 candle-power—which is not dealt with in this quotation, and could not be touched by it at all.

Mr. CHAPMAN.—This quotation tells you how to express the results of a test for candle-power efficiency, and it makes no difference whether it is a test to find out the candle-power efficiency of a machine or the candle-power of gas. I simply [330] want to get at whether or not the method of expressing the efficiency in candle-power is not uniformly and customarily determined by the statement of the number of candles produced by a gallon of oil.

The COURT.—With reference to the objection that this is not cross-examination, I can hardly think of any question relating to the whole domain of chemistry touching the subject now under investigation that would not be cross-examination of an expert witness, if for no other reason, than on the ground that it was in a greater or less degree serving to reveal his competency as an expert witness. I think the objection as to the immateriality of the testimony is not well taken. The objection is overruled. I believe I said “competency.” That is not the exact word. It should be “the reliability.”

(Plaintiff excepted to the ruling of the Court.)

A. I can only answer that question in this way: That is, that I have never heard that particular phrase of “candles per gallon” applied to the result of tests of water-gas or oil-gas generators on the Pacific Coast. I am only familiar with that expression in connection with literature dealing with other gas.



(Testimony of F. S. Wade.)

Q. (By Mr. CHAPMAN.) You do find it in text-books, though, in treating the value of gas as to candle-power—as to the value of fuel as to candle-power?

A. I have found it in such text books as you have just read from.

Q. But you mean to say that you have not heard such expressions used around your gas plant and among gas engineers with whom you have conversed?

A. I have no recollection of ever hearing that expression as applied to tests of oil-gas or water-gas generators on the Pacific Coast, or used by gas engineers that I have talked to. [331]

Q. You read the proceedings of the Pacific Coast Gas Association as reported in their journals, do you not? A. For the last two years.

Q. Don't you find that expression frequently used in those journals?

A. I have no recollection of it.

Q. You would not undertake to say, though, that it did not occur frequently?

A. I certainly would not.

Q. Isn't it a fact that this machine, for instance, if it was capable of producing and did produce 4.44 candles for each gallon of oil used, that if it had a proper sized generator it would mean that it could produce and did have a capacity to produce 20 candle-power gas?

A. I do not consider that I am in any way qualified to answer that question, and I cannot answer it.

Q. You are not a gas engineer?

(Testimony of F. S. Wade.)

A. I am not a gas engineer.

Q. You have not devoted your studies to gas-making and the kind of apparatus that they use in the production of it?

A. Only as incidental to certain investigations along chemical lines.

Q. But that is outside of the line of your professional duties?

A. That is certainly outside of the line of my duties.

Redirect Examination.

(By Mr. GOUDGE.)

Q. You say that you have read the proceedings of the Pacific Gas Association for the last two years.

A. I have read them particularly the last two years.

Q. Have you any other connection or familiarity with [332] the proceedings of the Pacific Coast Gas Association than the reading of the record?

A. I am a member of the Pacific Coast Gas Association and have attended one of their meetings.

Q. And have you there had conversations with chemists and engineers engaged in the gas business?

A. I did.

Q. On technical subjects.      A. Considerable.

Q. What is the meaning of 20 candle-power gas? What is the meaning of that expression?

A. That expression means that when gas is burned at the rate of 5 cubic feet per hour in a burner, in what is a luminous flame best adapted to develop the candle-power of that gas, it will yield a light equal to

(Testimony of F. S. Wade.)

the light given by 20 standard sperm candles burning at the rate (I believe) of 120 grains of sperm per minute. I am not absolutely certain of that figure, 120 grains, but that can easily be verified.

Q. At any rate, the standard candle burning at the standard rate.

A. Consuming the standard amount of sperm per minute.

Q. And the standard rate of consumption of gas is 5 cubic feet per hour?

A. Five cubic feet per hour.

Q. In a proper burner.

A. In the best adapted burner, and the flame of a gas corrected to standard temperature and pressure—60 degrees Fahrenheit and 30 degrees of mercury pressure.

Q. Is that the common and general and accepted meaning of the expression “20 candle-power gas” in the gas trade and business in this country?

A. It is the generally accepted meaning. [333]

Q. And for how long a period has that been the meaning of that expression?

A. Well, for 50 years, I should say.

Q. I will ask you whether it is true that gas—commercial gas—made under various systems of manufacture, costs or consumes in the making varying quantities of the crude material? That is to say, a varying amount of coal in pounds or varying amount in gallons of oil per thousand cubic feet of gas produced?

A. I know in a general way from having seen

(Testimony of F. S. Wade.)

records of the plant that the amount of oil used varies considerably from day to day.

Q. Per thousand cubic feet of gas?

A. Yes, sir. I couldn't make any statement as to coal. [334]

**[Testimony of C. A. Bartlett, for Plaintiff.]**

C. A. BARTLETT, a witness called on behalf of plaintiff, being first duly sworn, testified as follows:

Direct Examination.

I am 43 years of age and reside in the city of Los Angeles. My position now is and has been for the last 6 or 7 years Chief Clerk at the gas works for the Los Angeles Gas and Electric Corporation. I remember the operation and test of the water-gas set, installed by the Western Gas Construction Company, during the month of March, 1910. I received, as Chief Clerk, the records and reports of all the men and operators connected with said set, as to the amount of lamp-black fuel and oil consumed by said set during the month of March, 1910, as well as the records and reports of the temperature, and amount of gas produced by said set; also all such records as pressure gauge and barometric readings, moisture reports, etc. I checked over all of these reports to verify them and see that the same were correct immediately upon receipt of the same. From all of these reports so received, I made permanent records in the books of the corporation kept by me for that purpose.

On March 10th, 1910, and on the following days in said month, the water-gas set of the Western Gas

(Testimony of C. A. Bartlett.)

Construction Company made the following amount of corrected water-gas: (By corrected water-gas I mean the amount of gas after making proper deductions for temperature and pressure.) On March 10th, 1910, 2,700,000 cubic feet; March 11th, 2,422,000 cubic feet; March 12th, 2,247,000 cubic feet; March 13th, 1,936,000 cubic feet; March 14th, 72,300 cubic feet; March 15th, no gas; March 16th, 107,000; March 17th, 2,039,000 cubic feet; [335] March 18th, 2,095,000 cubic feet; March 19th, 2,028,000 cubic feet; March 20th, 2,136,000 cubic feet; March 21st, 2,171,000 cubic feet; March 22d, 2,074,000 cubic feet; March 23d, 2,008,000 cubic feet; March 24th, 2,015,000 cubic feet; March 25th, 1,956,000 cubic feet; March 26th, 1,950,000 cubic feet; March 27th, 1,824,000 cubic feet; March 28th, 1,640,000 cubic feet; March 29th, 1,292,000 cubic feet.

During the said period, the following is a statement of the net amount of lamp-black fuel actually placed in the generator of said water-gas set of the Western Gas Construction Company and consumed by it during said test;

March 10th, 134,275 pounds; March 11th, 97,775 pounds; March 12th, 90,700 pounds; March 13th, 69,350 pounds; March 14th, no fuel; March 15th, no fuel; March 16th, 8,000 pounds; March 17th, 103,200 pounds; March 18th, 84,000 pounds; March 19th, 86,510 pounds; March 20th, 85,575 pounds; March 21st, 90,700 pounds; March 22d, 90,565 pounds; March 23d, 74,525 pounds; March 24th, 81,520 pounds; March 25th, 72,925 pounds; March 26th, 57,600 pounds; March 27th, 53,215 pounds; March 28th, 58,700 pounds; and March 29th, 34,750 pounds.



(Testimony of H. W. Burkhart.)

The above lamp-black fuel is the net lamp-black fuel after the deduction for all waste fine material which was removed, weighed and credited to the Western Gas Construction Co.

The average candle-power of the gas produced by said set from March 10th to March 29th, 1910, is as follows: March 10th, 1910, 16.9; March 11th, 18.5; March 12th, 19.3; March 13th, 18.8; March 14th, 19.2; March 15th, shut down; March 16th, 17; March 17th, 17.9; March 18th, 19.3; March 19th, 18.9; March 20th, 18.9; March 21st, 19.2; March 22d, 19.5; March 23d, 19.9; March 24th, 19.7; March 25th, 18.4; March 26th, 19.2; March 27th, 20.2; March 28th, 19.6; March 29th, 18.9. [336]

**[Testimony of H. W. Burkhart, for Plaintiff.]**

H. W. BURKHART, called on behalf of the plaintiff, having been first duly sworn, testified as follows:

Direct Examination.

(By Mr. GOUDGE.)

Q. What is your business?

A. I am superintendent of the gas department of the Southern California Edison Company.

Q. How long have you held that position?

A. About four years.

Q. Mr. Burkhart, in 1910 and subsequent to March of that year, did you make any examination of the water-gas set installed in the works of the Los Angeles Gas and Electric Corporation by the Western Gas Construction Company?      A. Yes, sir.

Q. When did you do that?

A. Some time about March, I think of that year.

(Testimony of H. W. Burkhart.)

Q. Did you make any memoranda at the time of the results of your examination of this set?

A. Yes, I made some memoranda and wrote a letter to the company.

Q. I will ask you to state if this is the memorandum that you refer to? A. Yes, sir.

Q. That was made by you when?

A. That was made April 9, 1910.

Q. How soon after the examination that you speak of? A. Immediately after it, the same day.

Q. You may refer to that memorandum, if necessary, to refresh your recollection, and I will ask you to state what condition—physical condition—the apparatus was in at [337] the time you made the examination, stating what day it was, and then taking the set in its order as shown on this diagram, beginning with the beginning and running through in the way the gas passes through it, and stating the condition of the apparatus at the time of your examination.

A. The floor plates were laid loosely—uneven in appearance, and some higher than others. The generator—this apparatus here (pointing to diagram)—was leaking at this joint here,—the joint between the main generator and the head where the head fits on to the generator with a gasket under it. That gasket was leaking gas and tar. And the doors on top were also leaking here on account of the gaskets having blown out or becoming deteriorated. The arrangement for operating the various valves is not convenient. All valves should be placed in one location, so

(Testimony of H. W. Burkhart.)

as to be operated with a minimum amount of time and labor. Blast valves on this generator consist of one 24-inch Western valve, and one 20-inch Crane gate-valve, altered to a quick opening style. This latter valve is installed in a temporary and imperfect manner. Grate bars. That is, at the bottom of the generator. The grate bars of the generator are run at right angles to the larger part of the doors, making cleaning of the first difficult. Carbureter. The steel work, riveting and doors, and nozzles in the carbureter are in good condition. Oil is sprayed into this carbureter by means of eight oil sprays, arranged radially around the circumference of the shell near the top. I find that two of these sprays cannot be used on account of their being so placed that they cannot be removed on account of interfering with the superheater shell. That is, this shell here. (Pointing to diagram.) They should have been placed in a more convenient place to get at. They could not be readily removed for cleaning and inspection. [338] The checker work in the carbureter is in good condition, and the brick work piers supporting the checker work are also good. The bearing tile on top of the piers is somewhat broken up. They were somewhat broken up. The exact extent of which I was unable to determine. I simply looked through these doors and saw that there was some breakage there. The cast-iron connecting pipe between the carbureter and superheater developed a small leak which has been patched in a temporary manner by means of cement. This cement should be

(Testimony of H. W. Burkhart.)

removed and the leak permanently caulked, or otherwise repaired. That is the nozzle here. (Pointing to diagram.) Superheater. The steel shell doors, nozzles and all iron work is in good condition, but inspection of the checker-brick work shows it to be considerably crumbled on top. That is, the checker work on top of that portion of that shell. Washer, condenser and scrubber. The material and workmanship of those show no apparent defect.

Cross-examination.

(By Mr. CHAPMAN.)

I have charge of the building of gas machines for the Southern California Edison Company. My experience is not limited to what I have done for that company. I have been in the business of building machines of this character for sixteen years. This machine was not in operation at the time I saw it. It showed that it had been leaking by the stuff oozing through the joints.

Q. Could you see the apertures?

A. No, sir, but you could see the substance that had leaked through—tar and oil leaks through and leaves a mark there, and you can see it plainly. [339]

Q. Is that something that seldom occurs in a gas machine of this character? A. No, sir.

Q. Is it something of frequent occurrence?

A. Yes, sir.

Q. Easily remedied? A. Yes, sir.

Q. One leak, you say, was at the top of the generator, in those shells, that you pointed out there?

A. Yes, where the top is bolted onto the main shell.

(Testimony of H. W. Burkhart.)

Q. And you think the top was insufficiently supported or braced?

A. Well, it would indicate that by their being a marked leak, that the top was warped by pressure of gas, and that would cause the leakage. The substitution of other I-beams would cure that.

Q. There was also a leak in the passage between the carbureter and the superheater?

A. Yes, sir. That was patched.

Q. That, you say, could have been stopped by merely caulking? A. Yes, sir.

Q. Now, some of the bricks in the superheater showed evidences of crumbling? A. Yes, sir.

Q. To what extent?

A. I cannot say as to what extent. In looking in there they showed that they were broken up.

Q. Those bricks are laid loosely, one on top of the other, criss-crossed in checker fashion?

A. Yes, sir.

Q. And these bricks have just tumbled over?

A. Yes, sir. [340]

Q. Due to a jar?

A. Due to a jar or the breaking up of the brick by expansion or contraction in the operation of the machine.

Q. That could have been remedied by placing other bricks in there? A. Yes, sir.

Q. That is something that occurs frequently in an apparatus of that kind? A. Yes, sir.

Q. In other words, on the whole the apparatus could have been put in a good condition by remedying



(Testimony of H. W. Burkhart.)

these defects of which you have spoken.

A. Yes, sir.

Q. You would not consider them very serious, would you?

A. Well, they could have been remedied.

Q. Those two oil sprays that are located at inconvenient points could have been moved to some other point?

A. Yes, sir.

Q. And the grate bars that were set at right angles to the doors could have been put in in some other position, could they not?

A. Yes, sir.

Q. And the temporary valve that was placed there and the operation of which was convenient, could have been replaced with a permanent one and the defect remedied?

A. Yes, sir.

Q. Can you give us an idea of how much of the checker brick in the superheater came down?

A. No, sir, I could not. I simply saw some of them. I could not see clear into them, because only one door was opened.

Q. Where were they located? [341]

A. I looked in this door and some of these bricks here (illustrating) were crumbled, and I looked in on top here and some of these were crumbled or broken up.

Mr. CHAPMAN.—That is all.

**[Testimony of John T. Creighton, for Plaintiff.]**

JOHN T. CREIGHTON, called on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct Examination.

(By Mr. GOUDGE.)

Q. What is your name? A. John T. Creighton.

Q. Where do you reside?

A. 1620 New Jersey street.

Q. What is your business or occupation?

A. Assistant superintendent of gas manufacture for the Los Angeles Gas and Electric Corporation.

Q. How long have you held that position?

A. Since the first of the year.

Q. Prior to that time what was your occupation or position?

A. General foreman of gas manufacture.

Q. Of the same corporation?

A. Of the same corporation.

Q. How long had you held that place?

A. Seven or eight years.

Q. Did you have anything to do with the operation or observation of the operation of the water-gas set installed by The Western Gas Construction Company at the gas works in 1910?

A. Yes, sir. [342]

Q. You have heard the testimony in this case, have you? A. Parts of it.

Q. Reference has been made to the carbon bricks that were furnished and used in this machine. Do you know of those bricks? A. Yes, sir.

Q. State if you know when the bricks that were

(Testimony of John T. Creighton.)

used in this gas-set during the period of the test, from March 10th, to March 30, 1910, were made.

A. You mean all the brick that was used?

Q. Yes.

A. They were made from six to eight months prior to the test.

Q. Were any of the bricks used in this test made in any shorter time prior to the beginning of the test than six months? A. I do not think there was any.

Q. Where had the bricks that were used in this test been kept from the time they were made until the time they were used in the set?

A. On the property at the corner of Center and Ramirez street.

Q. (By the COURT.) How far is that from the water-gas set?

A. Directly across the street.

Q. (By Mr. GOUDGE.) Under what conditions were the bricks kept or cared for during that time of the six months that elapsed from the time they were made till they were used?

A. In the summer time the bricks were exposed to the atmosphere on all sides.

Q. That was the summer of what year?

A. 1909.

Q. Then, coming along in the fall and winter of 1909, what was the condition of the bricks in regard to the manner of [343] keeping or caring for them?

A. They were covered over with corrugated galvanized iron and tarpaulins.

(Testimony of John T. Creighton.)

Q. What quantity of brick were kept in that place during this period—the summer and fall and winter of 1909—about?

A. Something like three thousand tons.

Q. Now, you say in the fall and winter they were covered with corrugated iron and tarpaulin?

A. Yes, sir.

Q. And continuing in time up to the date of the test and the actual use of these bricks in the test, state what, if anything else, was done with them in the matter of caring for them.

A. When the heavy rains in January, 1910, came on, the brick were piled over again. They were all segregated into small little openings about four feet wide—four walls—and a small fire set in the center to drive off the moisture that had accumulated there.

Q. Do you know whether or not in January, 1910, these bricks had accumulated any moisture, so that their condition of moisture content was different from what it had been in the summer preceding?

A. Yes, sir.

Q. What was the fact as to that?

A. The fact is that from the chemist's analysis of bricks for moisture, it proved to us that they had absorbed some moisture either from the atmosphere or from the rains previous, to what they were along in August or September of 1909.

Q. You say in January, 1910, the bricks were re-piled or, at any rate, a change was made and openings left among the bricks, and fires built? [344]

A. Yes, sir.

(Testimony of John T. Creighton.)

Q. Was that in January, 1910?

A. It was about January.

Q. And from that time on what, if anything, was done with the bricks, following the history of the bricks so far as the care they had was concerned, up to the time they were actually used in the set? State how they were cared for and what was done.

A. The bricks all during those months prior to the test—some three months—were gone over regularly. Pretty near every day the samples were taken from the piles at different places, and the chemist made analysis as to the moisture of the pile of brick.

Q. Did the chemist make any reports of these tests? A. Yes, sir.

Q. And did you at the time know of these reports and what they showed?

A. Yes, sir, he made them to me.

Q. Then, when the time came for the bricks to be delivered to the set for use, what, if anything, did you have to do with the direction of the delivery of this fuel?

A. I gave orders to the men that were appointed to deliver the brick to the water-gas set, what piles they should take the bricks from.

Q. And how did you determine what piles they should be directed to take the bricks from?

A. By the report of the chemist.

Q. What condition governed the choice of the piles that the brick were to be taken from?

A. All bricks that were less than ten per cent were designated O. K. for the water-gas set.



(Testimony of John T. Creighton.)

Q. Were these piles marked in any way? [345]

A. Yes, they were marked O. K. and my initial put on them.

Q. Put on by you?

A. They were put on by me at first till I could designate the different men to follow the same routine.

Q. Do you know whether or not that course continued to be followed during the period of the test?

A. Yes, sir; after the work progressed, the chemist himself marked the different piles as they became analyzed for moisture and he found less than 10 per cent.

Q. Who was directing the operation of this water-gas set during this period from March 10th to March 30th, 1910? A. Mr. White.

Q. Mr. E. C. White? A. E. C. White.

Q. Did you have any control of the operation of this set during that period?

A. No control, only that the men were loaned to him. The men that were under my direction were loaned to him for the test.

Q. Who directed the men that worked during the test?

A. Mr. White in the day and Mr. Pederson, I believe, in the night.

Q. (By the COURT.) Who did you say directed the men?

A. Mr. White, representing the Western Gas Construction Company.

Q. That was in the daytime. What did you say about night?

(Testimony of John T. Creighton.)

A. Mr. Pederson, who also represented The Western Gas Construction Company.

The COURT.—Go on.

Q. (By Mr. GOUDGE.) Did you have any knowledge of this water-gas set prior to the time of this test in March, 1910? [346]

A. Yes, sir.

Q. Part of it had been there how long?

A. Part three years.

Q. I ask you whether at any time you ran, operated or directed the running or operating of this set or the set that was there prior to March, 1910, installed by The Western Gas Construction Company?

A. I never directed the operation of the set.

Q. Who operated this set at the times prior to March, 1910, if it was operated at all—at any time prior to March, 1910?

A. The first test was operated by a man named Mr. Shuman, a representative of the Western Gas Construction Company, and Mr. Pederson. The second test was operated by a Mr. Cleary.

Q. By whom was he employed?

A. By the Western Gas Construction Company.

Q. Was there any time when this set or the set as it existed before the alterations were made prior to the test in March, 1910—was there any time when it was used for making gas under the operation, direction or control of any employee of the Los Angeles Gas and Electric Corporation? A. No, sir.

Q. Or the Los Angeles Gas and Electric Com-

(Testimony of John T. Creighton.)

pany?     A. No, sir.

Q. Now, Mr. Creighton, do you know where the photometer is that was used to measure the candle-power of the gas produced in this set during the test of March —, 1910, to March 30, 1910?

A. Yes, sir.

Q. Did you ever receive any complaint or hear of any complaint or criticism of that photometer or its use, by Mr. White or Mr. Pederson or anyone else employed by or representing [347] The Western Gas Construction Company during the period of this test?     A. No, sir.

Q. Do you know whether either Mr. White or Mr. Pederson saw this photometer?     A. Yes, sir.

Q. During what time?

A. During this test in March, 1910.

Q. State how you know they saw the photometer during that time. What were the circumstances, and who were there?

A. On various occasions Mr. White conversed in regard to the candle-power that his machine or the machine that he was representing was making.

Q. Do you mean by that this machine?

A. Yes, sir.

Q. At the gas works?

A. Yes, sir; and he took the candle-power on the machine himself several times.

Q. In your presence?     A. Yes, sir.

Q. And what was said, if anything?

A. He commented on the standard of the candle-power of the gas that he was making, in regard to its quality of being high or low—whatever the circum-

(Testimony of John T. Creighton.)

stances happened to be at that particular time.

Q. When you say at various times, at what times are you referring to? Between what dates are you referring to?

A. Between March —, 1910, and March 30, 1910.

Q. At any of these times did he make any criticism or complaint of the photometer or its operation?

A. No, sir.

Q. How often did you see and converse with Mr. White [348] during the period of this test—how frequently?

A. Pretty nearly every hour in the day that he was on the ground.

Q. Relate any statement Mr. White made to you during this test on any of these matters referred to in the question. Take the meter, for example.

A. The station meter, he asked where the station meter was located, and I showed him where the station meter was located. He read the statement of the dial and set it down in his notebook, and every hour he used to read the statement of the station meter, and turn to me and state, if I was in hearing, how much gas he had made the previous hour, stating that it was doing pretty good, if he was doing pretty good, and that he was doing rotten if he wasn't making very much gas.

Q. Do you know whether Mr. White paid any attention to the thermometers or the thermometer which indicated the temperature of the gas?

A. Yes, sir. His attention was called to the thermometers that were placed in the gas mains before

(Testimony of John T. Creighton.)

the gas was measured.

Q. Did he make any statement concerning them?

A. He made the assertion that the thermometer readings were very high there.

Q. Did he say that they were incorrect or that he thought they were incorrect? A. No, sir.

Q. As to the pressure gauge: This self-recording Bristol gauge. Do you know whether his attention was directed to them? A. I think it was.

Q. Did he make any statement concerning it in your presence? [349]

A. My recollection is that he asked how came so much pressure on the gas main there at the gas meter, and I told him that the pressure of the holder was partly responsible for that pressure.

Q. Did you see the bricks actually delivered to the generator during the test? A. Yes, sir.

Q. In what shape were they delivered—what condition or shape?

A. The same condition that they stood in the pile yard. All whole bricks, with the exception of whatever might happen to be broken in two halves.

Q. It has been testified that the bricks were delivered by means of wagons into a pit, and then elevated and passed through a chute into the generator. That correctly describes it, does it? A. Yes, sir.

Q. Now, did you observe the delivery of the brick occurring through those channels? A. Yes, sir.

Q. Please state what did occur and what happened to the bricks, how they were handled and elevated and delivered through the chute. And what changes



(Testimony of John T. Creighton.)

occurred in the condition of the brick during that delivery.

A. The bricks were hauled to the chute that filled the bucket or elevator that carried them to the top working floor of this generator. When the wagon was drawn over the pit or chute, there was a trap-door that was pulled aside and the wagon, which is called a stick-wagon, was dumped into this chute. This chute held about a wagon load, or approximately one ton of brick. Then the elevator bucket stood directly in front of this chute and the bricks were discharged at the [350] option of the operator into the elevator bucket, and hoisted to the floor above. At the floor above the bucket automatically tripped and discharged into the bin that set approximately some ten or twelve feet above the working floor. Connecting this bin on the working floor with the mouth of the generator was a chute.

Q. Describe that chute.

A. After they were in the bin on the working floor, the bricks slid down a chute into the generator, whenever it was necessary to put more coal into the generator. The bottom of this chute,—at first it was just a plain tight bottom. Afterwards, Mr. White had some slots cut into it to sift out whatever fine stuff might be in there.

Q. What was the size of these slots and how many were there of them, and how were they placed with respect to one another?

A. The slots were about two or three inches wide and about 18 inches long. The whole surface of the

(Testimony of John T. Creighton.)

bottom of the chute was covered with them. The chute at the beginning of the bin was about three feet in diameter, and it tapered to about 18 inches, I would judge.

Q. What was it made of,—the chute?

A. Iron.

Q. About how long was the chute?

A. The chute was about ten or twelve feet long.

Q. What kind of material sifted through these apertures or slots?

A. Whatever particles of brick broke in transmission from the wagon to the loading chute of the bucket elevator, and also whatever broke from the emptying of the bucket elevator to the storage bin, on the working floor, was sifted out through these slots. [351]

Q. What became of that material?

A. It was allowed to accumulate on the floor directly underneath the charging chute until such time as the helpers could wheel it away and discharge it down a chute to the ground floor to be reweighed back again.

Q. Was that done? Was it weighed back again?

A. Yes, sir.

The COURT.—I don't understand that. What was done with that?

A. It was allowed to accumulate on the floor until such time of the working day that the generator helpers would have time to discharge it through another chute to the ground floor, to be taken in wagons to the scales to be reweighed, and credit given on

(Testimony of John T. Creighton.)

the amount of carbon that was delivered to the generator for that day.

Q. And that didn't go into the generator at all?

A. No, sir.

Q. That was deducted from the aggregate delivered for the day in question? A. Yes, sir.

Q. Then what was done with it?

A. It was taken back to the original pile of carbon that was not bricked yet, and rebricked for other purposes than that test. Sometimes it was taken to the boilers and used as fuel in a loose form under the boilers.

Q. Not of this set? A. Not of this set, no.

Q. (By Mr. GOUDGE.). I believe you stated that all of the bricks used in this test or in this set were bricks that were about six months old?

A. Yes, sir.

Q. Have you had any experience or knowledge of the use of such bricks as were used in this test—The Western Gas Construction Company's set—for the manufacture of water-gas? [352]

A. Yes, sir.

Q. By whom and when and where?

A. The Los Angeles Gas and Electric Corporation and Company in the manufacture of water-gas at their gas works, for the past ten years.

Q. Do you know whether the station meter No. 4 through which it has been testified the gas produced by this set during the test was measured, was at the time accurate?

A. Do you refer to the station meter?

(Testimony of John T. Creighton.)

Q. Yes.      A. Yes, sir.

Q. What if any test or demonstration of its accuracy was made?

A. It is the practice at the gas works to test the station meters once a month, and this station meter was tested the day previous, I think, to the day of starting the test.

Q. How is that done?

A. It is done by having a given amount or certain amount of gas in the gas-holder, that is known by the capacity of the gas-holder, and then passing that amount of gas through the station meter, and checking the same as to fast or slow, correction being made for any difference in temperature or pressure.

Q. Have you any experience in the matter of repair of water-gas generating sets and the cost of repairs of such apparatus?      A. Yes, sir.

Q. How derived? In what way have you had such experience?

A. It has been my duty for the last six years to make all estimates on the repairs of water-gas machines, as well as oil-gas machines.

Q. Did you make any examination of this set after the test [353] was completed on March 30th, 1910?      A. Yes, sir.

Q. Did you make any investigation as to any repairs or replacements that would be necessary to put this set in good condition?      A. Yes, sir.

Q. State what the result of that investigation was. What repairs or defects you found to be necessary, and for doing so state what would be the

(Testimony of John T. Creighton.)

cost of making such repairs in order to put that set in good condition so as to be properly operated.

A. Shall I refer to those notes?

Q. Any memoranda you made yourself.

A. I have a copy of it.

Q. If this is the original memorandum you had better use it.

A. I was asked by my superintendent to make an estimate of labor and material that would be necessary to put No. 4 water-gas set in condition to operate.

Q. Is that the set installed by the Western Gas Construction Company and tested from March 10 to March 30th?

A. Yes, sir. I estimated the rebricking of the carbureter and superheater \$300 labor and \$300 material, or a total of \$600.

Q. Did you make any examination in order to ascertain whether rebricking of the carbureter and superheater was necessary? A. Yes, sir.

Q. What was the result of that examination?

A. These figures.

Q. Was it or was it not necessary?

A. It was necessary.

Q. Do you refer to the checker brick when you say brick [354] work inside of the carbureter and superheater?

A. This brick work shown in the dark and light spots in this print. That is brick work shown in the dark and light spots of this print. I believe the



(Testimony of John T. Creighton.)

dark spots represent the brick and the light spots represent space.

Q. Referring to that diagram marked "carbureter" and "superheater" respectively?

A. Yes, sir.

Q. State what the condition of the brick work in those two shells was at the time you made the examination.

A. The brick work in the carbureter, a part of it was burnt below over these pier plates. Those would have to be replaced. To replace those we would have to take all this brick out. That is, this checker brick. And in taking the checker-brick out, we have found that we can only figure on a possible ten or twenty per cent of brick to save to put back again, and the others break up in handling them out of the machine and back into it again.

Q. And in the superheater?

A. In the top of the superheater, on the northeast side, it was melted down for about five or six feet. There was a place melted approximately six or seven feet in diameter, and about five or six feet deep. It had melted below, and this hole had dropped right down, and the brick all crumbled.

Q. Then, what was necessary in order to restore the superheater to the proper condition?

A. We would have to take all the brick out, and the percentage of brick we could save there was less than the percentage we could save in the carbureter, on account of its being in a worse condition than the carbureter.

(Testimony of John T. Creighton.)

Q. State what the cost of the labor and material is to replace the brick in the carbureter and superheater. [355]

A. The total labor and material to replace the brick in the carbureter and superheater was \$600.

Q. What other repairs did you find to be necessary from your examination at that time?

A. From my knowledge of seeing the machine making gas, there was an extraordinary leak around the cover of the generator. The gasket was leaking all the way around. This top would have to be removed and a new gasket put in.

Q. What was the cost of the labor and material required for that?

A. There was another item along with the cost of that, in reference to reinforcing the top. We found that this top had bulged up in a curved line from being straight, and to reinforce this top with I-beams, and caulking the seams of some of the iron work on the sides of the generator, the labor would have cost fifty dollars and the material a hundred and fifty dollars, or a total of two hundred dollars.

Q. What else?

A. The steam piping on the generator—on this estimate of steam piping for the generator, there was only one place on the west side to admit steam. While enough steam could be admitted through this opening, it would not distribute the steam properly. This estimate was placed with the intention of distributing the steam more accurately around the bottom of the generator by placing another

(Testimony of John T. Creighton.)

steam pipe on the opposite side.

Q. Never mind that. We are not asking for any estimate on that. Proceed now and speak of any repairs, rather than changes or improvements.

A. The plates on top of the walking floor were all loose and in a dangerous sort of a condition. They were not all bolted down. [356]

Q. What is your estimate of the cost of labor and material to correct that?

A. The labor on this was \$50 and the material \$200—\$250. However, I will state that where some of these plates in this estimate—we were to do away with the cost of iron plates and place some steel plates in their place. The next item was the injector nozzles around the carbureter where this oil was sprayed in. The estimate on that would have been a change on the machine.

Q. We will omit that.

A. The next estimate has a bearing on that, and would also require the rearrangement of the steam piping to fit that particular work. The next item was a change and not a repair, although it might have been a repair. This blast valve here, they seemed to be having trouble with it, and in my recommendation I recommended a 20-inch blast valve for the top of the carbureter. The labor on that is \$100 and the material \$275, a total of \$375. The rearrangement of the grate bars to clean the fires—

Q. Never mind that. Just repairs to reinstate the machine in the condition it should be in to work properly.

(Testimony of John T. Creighton.)

A. The arrangement of the coal chutes for handling the waste. That is all.

Q. Did you find any leak in the valve or any valve that was temporarily repaired—that 20-inch Crane gate valve that was testified to by Mr. Burkhardt?

A. That was a minor change, that would have necessarily had to be changed to operate it conveniently.

Q. Since the conclusion of this test, was this Western Gas Construction Company's set operated at all? A. Since the last test?

Q. Since the test from the 10th to the 30th of March, 1910? [357] A. No, sir.

Q. By anybody? A. No, sir.

Q. What has become of the set?

A. After the test was over with, the fires were allowed to burn out; the carbon that had gathered in the carbureter was allowed to burn out slowly, and the set was gradually closed down and cooled off. It remained in that condition till about May, I think, of this year, *and when* it was taken apart, and removed to an outside lot.

Q. What, if anything, has been done, or what use, if any use, has the space that this set formerly occupied, been devoted to?

A. There has been an oil gas generator built in the exact spot that this generator stood on.

Q. Has that been operated?

A. No, sir; not quite.

Mr. GOUDGE.—I think that is all.

(Testimony of John T. Creighton.)

Cross-examination.

(By Mr. CHAPMAN.)

Q. What did you say that \$275 item was for?

A. For putting the generator in condition to make gas.

Q. What part of the generator?

A. All of it combined as a machine.

Q. That includes the reinforcement of the top and closing up of the leak? A. Yes, sir.

Q. I thought you testified to some item in addition to that. I believe you said it cost \$200 to fix up the [358] generator top. What was the \$275 item for?

A. Twenty-inch blast valve on top of the carbureter, \$275. That is the estimated cost of the material.

Q. That was a blast valve in addition to the valve that had already been put on the carbureter?

A. No, sir.

Q. It took away one that was there and put in another one? A. Yes, sir.

Q. What for?

A. The one that was there, they were having difficulty in operating it. It would get red-hot.

Q. It was not broken or out of repair?

A. Every once in a while it was.

Q. It was in the same condition that it was placed in there?

A. No, sir; it was when it was placed in, and it was burned at the last of the test.

Q. Except for the fact that it heated up, was there



(Testimony of John T. Creighton.)

anything else wrong with it?

A. No, that was enough. It burned up.

Q. So in your estimate, you decided that the wise thing to do was to remove that and put in another?

A. Yes, sir; put in a larger one at the same time.

Q. So it was really an addition to the machine—a different construction?

A. The difference between the price of that valve and the price that I estimated the value to go in its place, would have been the increased value of the repair. I mean that it would be a partial increase of value on the machine, and a partial repair.

Q. I am asking if that change that you decided to make was not a substitution of a new valve for the old one, because you [359] thought that the old valve was not the proper style or kind to be put in.

A. Yes.

Q. So it was not a repair of anything that was there that became broken or damaged or out of order, was it? A. Yes, sir.

Q. I thought you said the old valve was not out of order, but simply became hot?

A. I said on account of its becoming hot would constitute its being out of repair.

Q. It didn't get hot because it was out of repair?

A. Yes, sir.

Q. Then, there was something wrong with the valve? A. Yes, sir.

Q. Mechanically wrong? A. Yes, sir.

Q. The style of valve was all right and the size, but it had some mechanical defect in it?

(Testimony of John T. Creighton.)

A. It had some mechanical defect in it.

Q. You say the checker brick were not in good condition in the carbureter?

A. Not so much the checker brick as underneath it.

Q. If the checker brick were all right, why do you say you would have to remove all of them and replace them?

A. The foundation the checker brick stood upon was weakened by being burned down.

Q. And couldn't take down the foundation without taking out all the other brick? A. No, sir.

Q. You heard Mr. Burkhart's testimony as to the checker brick being in good condition?

A. Partly so. [360]

Q. If I understood you correctly, at one place in your direct examination you stated that your impression was, or rather, that you thought that no brick had been delivered to this machine except those that had been manufactured anywhere from six to eight months previously. And later I think you said it was a fact that no such brick had been used except those that had been manufactured a considerable time before. Do you mean to say that you are positive that you did not use any other bricks in that test than those that had been manufactured a long time previously?

A. Not to my knowledge.

Q. Are you testifying from recollection or have you any record of what bricks were used and when they were made? A. From recollection.

(Testimony of John T. Creighton.)

Q. Isn't it a fact that you were manufacturing and drying bricks right along during the whole year 1909 and 1910?

A. We were manufacturing brick, yes, sir.

Q. And your bricking apparatus was constantly in operation? A. Partly.

Q. All except for occasional interruptions, wasn't it continuously operated? A. No, sir.

Q. What part of the time was it in operation?

A. I can't just recall, but there was sometimes as much as a month or six weeks that we did not operate it.

Q. Why didn't you use any of the bricks that you were manufacturing right along up to the time this test took place and during the test, for use in this machine?

A. These bricks that had been set aside for this machine—there was sufficient of those for the test for twenty days, and it was not necessary to use any of the bricks that were made just before the test, on this machine. [361]

Q. Why were these particular bricks set aside for this machine?

A. In the test a year previous there was a great number of bricks called for, and previous to that there was a great number of bricks called for, and these had accumulated from time to time, and they had never been used up, always waiting to know what the orders would be in regard to having fuel ready for any test that might come up on this set or machine.

(Testimony of John T. Creighton.)

Q. Mr. Pederson operated the machine for a space in August and September, 1909, didn't he?

A. I think it was in July or August, 1909.

Q. Did he use the same material—that which came from the same place?     A. Partly.

Q. What other brick was supplied him?

A. Some brick that were made about that time—about the time that he was making his preliminary trials.

Q. How long is it necessary to let bricks stand in the air to reduce the moisture to 15 or 20 per cent?

A. It depends a great deal on the condition of the atmosphere. If it is very warm weather, they will dry out in three months. If not so warm, it might take longer.

Q. Isn't it your present practice to use the brick that were made up after they were air-dried, from the time they came from your drying apparatus to your bricking machine, for only a space of a few weeks?

A. Those conditions change. It is never the same, hardly.

Q. Do you recall that prior to the time that this test started and after Mr. White arrived here and while he was making the changes in the machine, that there was some discussion between yourself and himself as to what bricks were to be used? [362]

A. No, sir.

Q. Didn't you have any discussion with him about a percentage of moisture that you thought it was advisable to use for the machine?

(Testimony of John T. Creighton.)

A. He often talked about the moisture in the brick.

Q. And discussed the question whether it would be better to use bricks with more than 10 per cent moisture, rather than drier brick?

A. He often asked my opinion about it.

Q. What advice did you give him?

A. I told him I didn't know what he was wanting, but all that I knew about it was what we were using in our water-gas set.

Q. And you told him?

A. I told him what we were using in our water-gas set.

Q. And what was that?

A. Bricks with about 20 per cent moisture—25, or sometimes 30.

Q. Didn't you advise the use of the same character of bricks in this set?     A. No, sir.

Q. You say that Mr. White made no complaint of the apparatus for observing the candle-power, and that you had seen him taking it himself once or twice, and that you had some conversation with him on the subject of candle-power. What was said in those conversations?

A. He would either tell me what his candle-power was, and if it was high he would make a remark that he would have to make some changes in the generator, and if it was low, he would make some other remarks along about the same line as to operating changes in the generator.

Q. What did you say to him in that regard? [363]

A. Most of the time, if he had contemplated any



(Testimony of John T. Creighton.)

changes in the operation of the generator, I would either say, "I guess so," or "Maybe that is what you will have to do," or, "I don't know," or something like that.

Q. But when his candle-power did get too high or too low, did he take up the matter with you?

A. Yes, sir.

Q. Why did he do that, if you know?

A. I don't know why he done it.

Q. Isn't it a fact that in the operation of your gas plant you aim to keep the candle-power to a certain standard? A. The commercial candle-power.

Q. A little over 19?

A. Something like that.

Q. And if Mr. White's candle-power or the candle-power of Mr. White's machine got beyond that—beyond the commercial standard that you were aiming to carry—did you remind him of the fact?

Mr. GOUDGE.—Objected to as irrelevant, immaterial and not cross-examination; and also an attempt to contradict the provisions of the written contract before the court.

The COURT.—What is the object of this?

Mr. CHAPMAN.—The matter of the conversations about candle-power was brought out by counsel himself in the direct examination. We certainly have a right to ascertain something about what the conversations were and how they came about.

The COURT.—What is the purpose of the testimony?

Mr. CHAPMAN.—The purpose of it is—

(Testimony of John T. Creighton.)

The COURT.—Of course, I understand that cross-examination is not necessarily limited to eliciting information that may bear on the issues in the case. It may be for other purposes: To test the capability of the witness and the extent of his knowledge. Therefore, I place very little importance [364] on the objection grounded on immateriality. But if it is material, I would like to know it.

Mr. CHAPMAN.—We admit that the candle-power was not carried on at an average of 20, but we give as a reason why, in our answer, that it was inconsistent with the gas company's plan of operations, and it was done pursuant to request, and therefore the test in that particular does not show the efficiency of the apparatus in that respect exactly.

The COURT.—The objection is overruled.

(Plaintiff excepted to the ruling of the Court.)

A. Yes, sir.

Q. Why did you do that?

A. In order to get the commercial candle-power that was necessary to carry. If I didn't know the candle-power that he was making on his machine—whether it was 20 or 25—it was immaterial to our commercial candle-power, because we had other generators that we could reduce the candle-power on and bring the commercial candle-power to the candle-power of 19 or 19.5.

Q. Then, why did you remind him when his candle-power got too high?

A. To know whether he intended to keep it there or not, because the very next hour or three hours it

(Testimony of John T. Creighton.)

would be three or four candles the opposite way.

Q. If he carried his candle-power beyond your average standard—which was something over 19—above that, then it would be necessary for the candle-power in your oil-gas operations to be reduced?

A. Yes, sir.

Q. And you say that would require some adjustment of operation of your oil-gas apparatus?

A. Yes, sir. [365]

Q. What adjustment would that necessitate?

A. The candle-power would have to be reduced on the other machines if his candle-power was higher than the commercial candle-power.

Q. Now, to reduce the candle-power of the other machine, you would have to do what?

A. Reduce it.

Q. By what means? Reducing the quantity of oil sprayed into the machine, or regulating the heats?

A. There is various methods. Both will do it.

Q. Also the time of the run has an effect on the candle-power, hasn't it? A. Partly so.

Q. What other of the various methods can be resorted to to regulate the candle-power.

A. Well, they are very numerous. By turning steam in it will do it. Cutting some steam off will do it.

Q. Isn't that a matter that requires some considerable care and some experiment and adjustment and operation to determine what changes to make?

A. It depends on how balanced the other generators or gas machines are, whether you can do it

(Testimony of John T. Creighton.)

inside of an hour or two hours.

Q. It is a matter, however, of some inconvenience to be compelled to reduce or change the candle-power from the standard that you are carrying in your oil-gas machine?

A. Nothing more than issuing an order.

Q. And if you are issuing an order somebody has to execute the order? A. Yes, sir.

Q. And consequently, wasn't it desirable on the part of your company that the water-gas apparatus be maintained at an [366] average candle-power that would conform to that which you were carrying in your other machines? A. No, sir.

Q. It was not even desirable?

A. I do not understand the first of that. It was not desirable on their part.

Q. On the part of the Gas Company?

A. It was not desirable on our part. We didn't have anything to do with that. We took the candle-power that they gave us, as close to the contract as they could make it, and then we treated and balanced the commercial gas and candle-power that they gave us, trying to make their test run; if it was 20 we took it, and if it was 22 we took it, or 16. And if it was down as low as 13 we took it, and we would take our oil-gas machine and bring it to the standard of 19 or 19.5.

Q. But in the regular course of your operations, you had been before then and are now regulating those machines so as to carry and maintain a candle-power of 19 candles? A. At the present time?

(Testimony of John T. Creighton.)

Q. And then at that time?

A. I think it was along about 1905, if I remember right—our water-gas set would always vary in regard to the manufacturing of water-gas in combination with oil-gas. The gas manufactured was somewhat different. You could either carry more candle-power in the water-gas and a lower one in the oil-gas, and give an illuminant of 19 candles.

Q. Do you mean to tell the Court that it would be preferable to you and the operators to have this carried out above the candle-power, so as to reduce your candle-power in the other machines, to conform to it, rather than have it—

A. It is cheaper to make a lower candle-power.

Q. Is it cheaper? [367] A. Yes, sir.

Q. So, when the water-gas machine the Western Company was making 19 candle-power, it was costing your company less money than if they had raised that candle-power to twenty? Is that correct?

A. Not on that particular machine.

Q. You were paying for the oil? A. Yes, sir.

Q. Why wasn't it costing you more money to operate that machine at 20 candle-power than it was at 19? A. I don't know.

Q. You know that it wouldn't cost your company as much money to maintain the candles at 19 than it would to maintain it at 20?

A. Not on our machine.

Q. I am talking about this machine.

A. If the machine was balanced properly probably it wouldn't. That is, the oil and everything, etc.



(Testimony of John T. Creighton.)

Q. Do you claim that this machine was not properly balanced? A. Yes, sir.

Q. What do you mean by that?

A. The steam and the oil that was turned into the gas.

Q. You mean by that that they were not supplying the machine with the proper quantity of air and steam and oil to get the proper results or best results from the apparatus? Is that what you mean?

A. No, that it not what I mean.

Q. What is it that you mean?

A. I mean from the results that I saw from the machine, it took so much oil to do certain things; it took too much carbon to do certain things; and it *too too* much carbon to do certain things; and it and it took so much air to do certain things; and if those things were properly blended in the right construction of the machine, they would have got a better result.

Q. Well, that was a matter for the operator to regulate? A. No, he is under orders.

Q. Some man gives the orders, doesn't he?

A. Yes, sir.

Q. Then it was a matter for the man who gave the orders to regulate? It was all in his power to regulate? A. Yes, sir.

Q. The other would turn on more or less steam, or more or less oil, or more or less air?

A. Yes, sir.

Q. Did you have supervision of the bricking of these bricks that were used in this machine?

(Testimony of John T. Creighton.)

A. Partly so; yes, sir.

Q. Do you know with what moisture on an average they left the bricking press?

A. Not the exact moisture; no, sir.

Q. Approximately on an average, I mean?

A. I know what the practice is; but what those bricks left at—I know what the moisture is that the brick machine will make a brick, and what moisture it won't make a brick, and between those averages the difference is manufactured into bricks.

Q. What are those limits?

A. Those limits run from fifteen to about thirty per cent thirty or thirty-five per cent—or something like that. That is the range of the least moisture that you can make bricks on those brick machines, and the most moisture that you can form a brick that will hold so that you can transport it to a pile.

Q. Was that true when these bricks were made?  
[369]

A. That same practice held good.

Q. You mean to say that the material that contains less than ten per cent moisture cannot be bricked?

A. Yes, sir.

Q. On any machine or machines that you have there? A. In those machines.

Q. But with the proper apparatus they could be bricked? A. I never heard of one.

Q. You never tried it?

A. On these machines we have.

(Testimony of John T. Creighton.)

Q. But you don't know of any place where they have been bricking material with that percentage of moisture in them?

Mr. GOUDGE.—What percentage, Mr. Chapman?

Mr. CHAPMAN.—Ten per cent, or less than ten per cent.

The COURT.—Or less than fifteen?

Mr. CHAPMAN.—Yes, less than fifteen.

A. No, sir. By that I mean, of course, in a practical way. You might be able to get one brick, but the machine would break. It might be possible to press one brick, but it would not be practicable.

Q. (By Mr. CHAPMAN.) It is a question of power, isn't it? Why is it that you cannot brick the dry stuff? A. I don't know why it is.

Q. That material all contains a binder in the form of tar or volatile combustible matter?

A. Our experience is that the moisture is the only binder that really counts in the manufacture of brick, the same as in a building brick. The tempering of the clay or the carbon.

Q. The moisture, then, has the effect of creating an adhesive property in the material that makes it hold together? A. Partially so.

Q. If you drive out the moisture you have not a substantial brick? [370]

A. Yes, sir, you have a substantial brick afterwards.

Q. How it is that the moisture is the binding material when if you drive it out you still have a substantial brick?

(Testimony of John T. Creighton.)

A. It is just while you are pressing it.

Q. While you are pressing it the water takes hold and binds and after you cease pressing it it lets go.

A. No, sir.

Q. What is your theory about it?

A. Just from the kind of practice that I have had in the manufacturing of these bricks.

Q. And you find you can make a better brick with the moisture in it than with the dry material?

A. Yes, sir.

The COURT.—This moisture being the binder or adhesive force you can increase the water in it to what limit and still make a brick? Or does it make any difference how dry it is after the brick is once made?

A. It doesn't make any difference after it is once formed. It is the same as an adobe brick, when the moisture is out of it.

Q. Is there some chemical change in the formation of that brick?

Q. (By Mr. CHAPMAN.) Do you know whether the driving out of the moisture creates any change in the material or in the brick chemically?

A. No, sir; only a theory of my own. The theory is, your Honor, in getting the dry stuff, the particles are more apart and there is a great deal of air in the dust—the fine, dry dust. When you try to compress that you compress the air, and the air compression in there won't let the particles of carbon get together, which the water does not do. The water allows them to get together and bind; but when it is

(Testimony of John T. Creighton.)

fine, dry dust, the air don't let them do that. The air keeps them away. But the water will intermingle with them a little bit, and you [371] press the water to the outside and the particles of carbon together.

Q. (By Mr. CHAPMAN.) Did you ever weigh a brick that had been compressed and made into a fairly good brick with dry material, as compared with one that was made with moisture in it?

A. Yes, sir.

Q. And did you ever drive out the moisture from the wet brick and compare its weight with the dry one? A. Yes, sir.

Q. How does it compare?

A. The one that would be pressed with less moisture in it would be heavier than the one that had been pressed with moisture in it and then dried out afterwards.

Q. As a matter of fact, when you drive out the moisture it leaves a void in the brick that was occupied by the moisture? A. Yes, sir.

Q. And does not that render the brick unsubstantial as compared with one that is bricked dry or with less moisture? A. Not necessarily so.

Q. I believe you stated in your direct examination that you had experience in using material of the character supplied to this machine, in your own water-gas sets there? A. Yes, sir.

Q. Do you mean the kiln-dried brick?

A. I have had experience in all kinds of brick, mostly.



(Testimony of John T. Creighton.)

Q. Have you used kiln-dried brick, dried in the manner that this material was dried after the bricks were made, by fires built around them, in the manufacture of gas?      A. Not in common practice.

Q. Did you ever do it at all?      [372]

A. Yes, sir.

Q. With what result?

A. It cost too much to dry them. Otherwise you made gas with them which was very satisfactory.

Q. To what extent have you done that?

A. Just as a test.

Q. How long did you carry on the test?

A. Oh, probably a day's manufacture or two days. I can't recall now.

Q. Do you recall that there was a great deal of complaint on Mr. White's part and Mr. Pederson's part in regard to the condition of the fire-dried brick that you supplied this machine with?

A. He complained a great deal toward the last of the test.

Q. And his complaint was that they crumbled, so easily, wasn't it?

A. Most of his complaint was that they crumbled.

Q. Wasn't that a fact?

A. They crumbled some.

Q. They crumbled to such an extent that on some days one-third of the entire material that went down the chute was sifted out through the slits that you speak of?      A. No, sir.

Q. Never as much as a third?

A. Not that I know of.

(Testimony of John T. Creighton.)

Q. Did you make any observation or keep any track of what the extent of the crumbling was?

A. Yes, sir.

Q. You have examined the records here—

A. Not by actual weight, only by observation. I noticed the actual weight. [373]

Q. You noticed that sometimes it ran as high as twenty-five per cent, didn't you? A. No, sir.

Q. Take for instance the 17th. There is 136,000 pounds of carbon delivered, and 32,800 that went through the screen—however, that doesn't say that all that went down the chute does it? A. No.

Q. I don't know as we have any record that shows that?

Mr. EDWARDS.—What do you want?

Mr. CHAPMAN.—The consumption each day compared with the waste.

Mr. EDWARDS.—The consumption of fuel each day?

Mr. CHAPMAN.—Yes, sir.

Mr. EDWARDS.—The cards show it.

Mr. GOUDGE.—You deduct what is left on the floor.

Mr. EDWARDS.—Deduct 97,755 and there is the total consumption for the day.

The COURT.—Was the production of gas, speaking not with accuracy but approximately, greater or less in the earlier days of the test as compared with the production of the latter part?

Mr. CHAPMAN.—Greater at the first part of the test; it started at 2,700,000 feet the first day, and

(Testimony of John T. Creighton.)

dwindled down to something less than 1,200,000 the last day.

The COURT.—It is understood, I suppose, that all these papers that have been introduced or that will be introduced are read? In fact, none of them have been read.

Mr. CHAPMAN.—We might stipulate now that they may all be deemed to have been read.

Mr. GOUDGE.—Yes, sir.

The COURT.—And all that may be hereafter introduced? [374]

Mr. CHAPMAN.—Yes, sir.

Mr. GOUDGE.—Yes, sir.

Q. (By Mr. CHAPMAN.) You have noted, have you not, that on the 17th there was 136,000 pounds delivered and 32,800 pounds of waste removed?

A. That might have been possible, as some of the waste was not always removed the same day.

Q. Don't you know that the waste was removed every day of the test?

A. No, sir; not all of it every day.

Q. There is one on the 18th where the fuel delivered apparently was 112,675, and 28,675 removed. That is the next day after they removed 32,000?

A. This might have been a day that the generator did not take very much carbon on account of a possible temporary repair or something, when the men had plenty of time to remove the waste that had gathered previous to that.

Q. You have noticed that on the 17th they removed 32,800 pounds? A. Yes, sir.

(Testimony of John T. Creighton.)

Q. And on the 18th they removed 28,675 pounds?

A. Yes, sir.

Q. At any rate, you do know that there was a large quantity of fine stuff went through those chutes in each charging, don't you?

A. It was less than I had ever observed in the handling of bricks for making the water-gas in my observations at the gas works.

Q. Do you mean to say in making gas in your present plant you haul away as much waste as that that comes from the brick—is left over from the brick—that is handled to go into the generator?  
[375]

A. It sometimes runs as high as 20 or 25 per cent.

Q. At the present time? A. Yes, sir.

Q. How do you handle it? Do you handle it through the chutes in that manner?

A. With the ones that we are using now?

Q. Yes, sir.

A. No, we don't handle it through chutes. We handle it through wheelbarrows and a fork; take it off of the floor through the fires. We handle it in wagons, though, just the same.

Q. Dump it on the floor and pitch it into the fire with pitch forks? A. Yes, sir.

Q. In these water-gas machines that you operate, how much carbon do you use to each thousand feet?

A. It depends upon the moisture in the carbon.

Mr. CHAPMAN.—We want to show that it is impossible to get efficiency economically with brick that crumble in that manner. I want to show that they

(Testimony of John T. Creighton.)

use in their machines anywhere from 39 to 63 pounds to the thousand feet.

Q. (By Mr. CHAPMAN.) Don't you keep a record of the carbon used independently of the moisture? A. No, sir.

Q. I call your attention to a statement that purports to be a statement of the water-gas made and the carbon used in August, 1911, in your water-gas manufacture, attached to the deposition of Mr. Luckenbach which is on file in this case, and ask you if that does not correctly represent the consumption of fuel per thousand feet in your water-gas apparatus during that month.

A. That is carbon plus the moisture, if this is the record [376] of those machines. It is the carbon plus the moisture.

Q. Is that in accordance with your understanding of how the carbon plus the moisture runs in that machine?

A. It varies a great deal, sometimes, as the moisture varies.

Q. Between what limits does it vary?

A. I would say thirty and sixty.

Q. Thirty pounds of fuel to sixty? A. Yes, sir.

Q. You have four sets there, have you not—water-gas sets? A. Yes, sir.

Q. What are their dimensions?

A. I cannot recall them right now.

Q. Any of them as large as this machine?

A. There is a different construction than in this machine, altogether.



(Testimony of John T. Creighton.)

Q. But they are small sets, aren't they?

A. Yes, sir.

Q. About what size are they?

A. Eight to ten feet in diameter.

Q. What is the greatest output of those machines for twenty-four hours with the use of that material?

A. The greatest one day's output?

Q. No, the average output?

A. In the neighborhood of a million and a half cubic feet of gas per day.

Q. When Mr. White complained to you about the character of the fuel, what did he say?

A. He asked me if I didn't think the bricks were breaking up too much, as being the cause why he was not making as much gas as he did the first two or three days. [377]

Q. Is that all he said to you about the bricks?

A. Yes, sir. He often said it though.

Q. What would you reply?

A. I didn't think so.

Q. Don't you know that a great deal of fine stuff got into the generator in going down into these chutes?

A. Not in the ordinary gas practice of handling those bricks.

Q. Can you give us an idea what proportion of fine stuff in customary practice goes into the machine?

A. I would say five per cent to ten per cent.

Q. Five to ten per cent?

The COURT.—Where is the furnace of that machine on that diagram?

(Testimony of John T. Creighton.)

Mr. CHAPMAN.—It is right in the generator.

The COURT.—That generator then itself is the furnace, so to speak? I mean by furnace the receptacle for the fuel?

Mr. EDWARDS.—Yes, sir, for the carbon fuel.

Q. (By Mr. CHAPMAN.) Five or six per cent, you think, in common practice, goes into the generator? A. Five per cent, I believe it is.

Q. I understand that in your practice you handle it from the charging floor of the generator with a pitchfork? A. Yes, sir.

Q. Didn't you tell Mr. White during this operation that if the Gas Company accepted the machine and it came into your possession and control, you would be making two and a half million feet of gas with it before the month expired?

A. He asked me the question if I couldn't do it.

Q. What did you say? A. I might.

Q. Didn't you tell him that you would make some changes [378] in the machine and make some changes in the method of feeding the machine, and get results of that kind? A. No, sir.

Q. Did you have a conversation along those lines with Mr. Pederson?

A. I don't remember having any conversation with Mr. Pederson along those lines.

Q. You say you are sure the conversation you refer to was with Mr. White? A. I think it was.

Q. But you did talk with both of them on various subjects?

A. I talked a great deal about the machine, off and on.

(Testimony of John T. Creighton.)

Q. May it not have been that the conversation that you refer to was with Mr. Pederson?

A. I don't know.

Q. I believe you stated that the materials that are handled in the bricking machines run sometimes as high as 60 per cent moisture?

A. In the bricking machine?

Q. Yes, sir.

A. No, sir; I never made any such assertion.

Q. I misunderstood you, then. What is the average moisture in the material that is bricked before it is bricked?

A. I stated that the practice has been found that it is possible to brick carbon from 15 to 30 or 35 per cent of moisture. The average is about the best—in the neighborhood of 20.

Q. Then, you must dry it out somewhat before you brick it, don't you? A. Sun-dry it.

Q. Before it is bricked? [379] A. Yes, sir.

Q. Then after it is bricked on that percentage of 20 or 25, you then subject it to a drying process after it is bricked by letting it stand in the air?

A. That is the practice.

Q. Was that the practice followed in this test?

A. Yes, sir.

Q. That you dried the material first to 20 or 25 per cent of moisture and then bricked it? A. Yes, sir.

Q. And then let them stand in the air?

A. Yes, sir.

Q. And afterwards built fires around them?

A. We built fires on them after we found that

(Testimony of John T. Creighton.)

they were not down to 10 per cent, on account of the rains and so forth during the winter.

Q. Do you know anything about any hot bricks being delivered into this plant and there used during the test?     A. No, sir.

Q. You don't know anything about that?

A. No, sir.

Q. Well, warm brick?     A. No, sir.

Q. Do you know what the relative substantiality of warm brick is as compared to brick of normal temperature?

A. I don't quite understand that question.

Q. I mean a brick that is artificially heated and before it cools, is it as strong a brick as one that has been allowed to cool?

A. At different temperatures there would be a different physical strength of brick.

Q. Which is the stronger, the heated brick or hot brick, or the cool one? [380]

A. The heated brick, if you let it cool, is just as strong as it was before it was heated.

Q. I am asking you about when it is hot?

A. I don't know. I haven't made any tests along those lines.

Q. Haven't you thrown hot bricks around the yard to ascertain whether they would stand the jarring or not?     A. No, sir.

Q. You don't know what the effect of heat on a brick is so far as its strength is concerned?

A. I know after they cool what they are. I have

(Testimony of John T. Creighton.)

seen them heated and then cooled, but while they are really hot I haven't handled them to any extent.

Redirect Examination.

(By Mr. GOUDGE.)

Q. You have already spoken of your experience in the gas business. I will ask you whether you know what is the meaning of the expression or the meaning given to the expression "lamp-black" in the gas trade in this country? A. Yes, sir.

Q. What does that term mean? What is it commonly understood and taken to mean in the gas trade?

A. It means a by-product from oil-gas manufacture.

Q. Have you ever talked of material under the designation of lamp-black with other persons engaged in the business of gas manufacture outside of persons who are connected with the Los Angeles Gas and Electric Corporation or Los Angeles Gas and Electric Company? [381] A. Yes, sir.

Q. Have you ever discussed or heard discussed the by-product of your oil-gas manufactured by such persons, and, if so, under what name has it been referred to by them?

A. It has always been referred to by them as lamp-black.

Q. Were all of the bricks that were furnished to The Western Gas Construction Company during the progress of this test composed of this by-product that you are describing as commonly referred to as lamp-black? A. Yes, sir.



(Testimony of John T. Creighton.)

Q. For how long a period of time have you known this substance to be designated in the trade as lamp-black? A. Ten years in my practice.

Q. Mr. Creighton, you have described the manner in which the fuel was fed into this generator in this test, namely, down through the chute?

A. Yes, sir.

Q. I will ask you whether it was possible with that machine, constructed as it was, to feed the fuel into this generator by forking it in in the manner that you have described was pursued by your company in its water-gas set? A. Yes, sir; it is possible.

Q. Was any of the fuel that was fed into this generator during the test put into it by forking in?

A. Yes, sir.

Q. Who directed or controlled the manner in which fuel was fed into this generator during the test?

A. Mr. White and Mr. Pederson. [382]

Recross-examination.

(By Mr. CHAPMAN.)

Q. You don't mean to say that they forked in fuel into the generator in the last test—the twenty day test? A. I believe it was during one or two days.

Q. During the test?

A. Yes, sir. That is, it was forked in for a trial to see how it would work.

Q. Are you sure that you are not confusing that trial or experiment with some preliminary test before the final test took place? A. I don't think so.

Q. Don't you know that they did fork it into the machine for a while before the test was started, and

(Testimony of John T. Creighton.)

they found that it took so much time that they were losing a greater portion of time than would ordinarily result in the operation of the machine, on account of the size of this machine?

A. That was tried previously, too.

Mr. GOUDGE.—We desire to offer in evidence a letter on a letter-head of The Western Gas Construction Company, dated San Francisco, California, December 18, 1909. I believe it will be admitted without our proving it that this letter was written and sent on the date it bears, December 18, 1909, by Mr. Pederson to the Los Angeles Gas and Electric Corporation; is that right?

Mr. CHAPMAN.—Yes.

(Mr. Goudge reads said letter in evidence, and the same is marked Plaintiff's Exhibit 55, and is as follows:)

[383]

**Plaintiff's Exhibit No. 55.**

THE WESTERN GAS CONSTRUCTION  
COMPANY,

Gas Engineers,

Fort Wayne, Indiana.

San Francisco, Cal., December 18, 1909.

Los Angeles Gas and Electric Corporation,

Los Angeles, Cal.

Gentlemen:

Attention Mr. Luckenbach.

We have, as yet, not received your letter confirming your verbal agreement to pay the cost of building additional foundations for the generators installed by us in case the plant fulfilled the guarantee,

(Testimony of B. S. Pederson.)

and was accepted by your company. I should like to have this confirmation for my file, and would appreciate your early consideration of the same.

With compliments of the season, I am,

Yours very truly,

THE WESTERN GAS CONSTRUCTION  
COMPANY,

Per B. S. PEDERSON.

BSP/H.

Plaintiff here rests. [384]

**[Testimony of B. S. Pederson, for Defendant.]**

B. S. PEDERSON, called on behalf of the defendant, being first duly sworn, testified as follows:

Direct Examination.

(By Mr. CHAPMAN.)

Q. What is your business or occupation?

A. Pacific Coast Manager of The Western Gas Construction Company.

Q. How long have you been in their employ?

A. About fifteen years.

Q. Have you been engaged in that capacity during all that time?

A. No. Since 1900—about ten or eleven years in that capacity.

Q. Before that time what was the nature of your duties with that company?

A. I was erector of gas machinery.

Q. When did you first go into the gas machinery business? A. In 1894 or '5.

Q. Have you been following it ever since?

(Testimony of B. S. Pederson.)

A. Yes, sir.

Q. During all that period have you been connected with gas plants and gas manufacture, and the erection and installation of machines? A. I have.

Q. Have you had any college or school training in the science of gas-making or construction of gas apparatus? A. No, not directly in that branch.

Q. Your knowledge of the subject of gas-making is derived from practical experience, rather than from book training?

A. From practical experience, supplemented by extensive reading and study. [385]

Q. But you are not a graduate engineer?

A. I am not.

Q. Have you been following the business of gas manufacture and erection of machinery ever since you entered the business?

A. I have. Well, the first year I was engaged as operator in a gas work—that is, coal-gas and water-gas works.

Q. Have you had charge of the erection of a great many plants. A. I have.

Q. Have you made any specialty of water-gas apparatus?

A. For a period of seven or eight years I was entirely engaged in the water-gas business.

Q. Were you the agent of the defendant company at the time this contract was made with the plaintiff corporation? A. I was.

Q. You are the man that conducted the negotiations that led up to the contract? A. Yes, sir.

(Testimony of B. S. Pederson.)

Q. And your negotiations were principally made with Mr. Luckenbach of the Los Angeles Gas and Electric Corporation? A. Yes, sir.

Q. Do you recall when you first began to discuss the subject of installing this plant with him?

A. I do.

Q. About what time?

A. I think the first time the subject was mentioned was in December, some time in 1906. One of my customers met me on the street and mentioned the fact that Luckenbach wanted to see me; that he thought there was some work in sight. I called on Mr. Luckenbach at that time and he inquired if we could make an apparatus having a capacity of approximately 3,000,000 feet of water-gas per day. I told him that we could, because in our [386] bulletin we specified an apparatus of that size.

Q. Did he say anything about the character of the fuel to be used?

A. At that time he mentioned that we would use lamp-black fuel, and in talking the matter over he said that they were at the present time briqueting it for commercial use, and that they were contemplating the installation of apparatus to dry out this lamp-black, and that they would turn brick out and furnish it to us for use in this machine. I asked him if they had any of it on hand, so that we could determine the quality of it and he told me that they had down at the gas works, and that I could go down and see Mr. Millard, the superintendent, and he would show me samples of the material that they intended



(Testimony of B. S. Pederson.)

to use, but not in the shape. He would show me the quality.

Q. Did he tell you what difference there would be or might be in the shape as compared with the sample shown you?

A. He did. He said they contemplated putting in a machine to make a brick form rather than a briquet. But they contemplated this bricking machine for that purpose, and contemplated purchasing it for that purpose.

Q. Had you any familiarity with the gas company's plant at Aliso street at that time in the way of personal knowledge of what they were doing down there?

A. Only such as could be gained by casual observation. I was always admitted there as a gas-man and shown courtesies the same as any other gas-man would be.

Q. Were you familiar with the by-products of oil-gas making machines that they call lamp-black?

A. Oh, yes, I have been familiar with that for some years, and was at that time.

Q. Had you ever made gas of it?

A. No, sir, I had not. [387]

Q. Had you ever constructed an apparatus before to use that material? A. I had not.

Q. Do you know whether the material had been at that time extensively used in any gas-making machines?

A. I knew of two or three plants where they were using lamp-black fuel. I knew they were using it

(Testimony of B. S. Pederson.)

here and in San Francisco they were using it.

Q. Your principal familiarity had been in the operation of plants for the use of what material?

A. Coke and anthracite coal.

Q. And you were familiar with the method of manufacture and operation of machines for the use of that material? A. Yes, sir.

Q. And with the results obtained?

A. Yes, sir.

Q. In the manufacture of water-gas from fuel of that character, is the principle the same?

A. The principle is the same.

Q. What is the composition of anthracite coal as compared with lamp-black, in a general way?

A. It is very largely the same. The amount of carbon will run possibly a little higher, because we don't have the Lithian oil or binders in the anthracite coal as you would have in the carbon. So where there would be possibly eight or ten per cent of binder in the ordinary lamp-black brick and two or three per cent usually of ash, the anthracite coal would run about ninety-five per cent of carbon with five per cent ash, or approximately that. I wouldn't say absolutely. I haven't the figures with me.

Q. And the by-product of this plant or of these plants is nearer a pure carbon? [388]

A. I won't say nearer to a pure carbon, no; for the reason that there would be from seven to ten per cent binder, which would not be pure carbon, but a hydrocarbon.

Q. What part does the binder or hydrocarbon and

(Testimony of B. S. Pederson.)

the ash in the material—the fuel—play? Does it play any part in the gas manufacture?

A. The hydrocarbon when released would only tend to add a certain amount of heat to the apparatus during a blast. During a run I would say there would be no additional *advantage* the hydrocarbon. The fact is, before you get to the running part, the hydrocarbon is driven off in the blast, so it adds no value to the fuel. The ash is a negative quantity in both cases.

Q. How about the ash in lamp-black as compared with ash in other fuels used in water-gas machines? Would it be more or less? A. It would be less.

Q. Much less?

A. Well, in ordinary cases, the difference between five and three per cent. There would probably be three per cent ash in lamp-black which would not be ash, but an accumulation of dirt. There is no ash as ash in the fuel.

Q. What part does the carbon in the lamp-black or the lamp-black itself play in the gas manufacture?

A. In the first place, the carbon is used to obtain the heat in the carbureter and superheater. That is done by the introduction of oxygen and forming a combustion in there. The gases arising from the combustion being used in the carbureter and superheater to heat the two shells. When this carbon has been heated to incandescence, the gas-making process begins, by closing off the blast and admitting steam. This steam passes through the incandescent mass of carbon and a chemical reaction takes place. The

(Testimony of B. S. Pederson.)

heat decomposes the steam [389] into its two component gases, hydrogen and oxygen. The oxygen combines with the carbon, forming, first, a carbon dioxide, and then by passing further on it makes a carbon monoxide, or equal parts of carbon and oxygen. The hydrogen is released and passed through as free hydrogen. It is not combined in any other combination in the generator.

Q. And the two gases thus form,—the free hydrogen and the gas formed by the union of oxygen with the carbon, forms the water-gas.

A. It forms pure water-gas which in turn forms about 70 per cent—from 65 to 70 per cent—of the commercial water-gas.

Q. So that the value of the fuel for water-gas making purposes depends on the extent of carbon?

A Entirely upon the quantity of carbon contained.

Q. The desideratum for the gas-man with a machine of that kind is to get fuel with as much carbon as possible? A. —.

Q. Did you go to the plant pursuant to Mr. Luckenbach's direction? A. I did.

Q. Did you obtain a sample?

A. Not at that time.

Q. Did you at any subsequent time?

A. I did. I saw the samples and examined them the first time, and I questioned Mr. Millard about them, and obtained from him the information that I desired to get so as to be able to form an opinion as

(Testimony of B. S. Pederson.)

to whether we could handle it or not in a machine of our kind.

Q. Was there anything said between Mr. Luckenbach and yourself with reference to guarantees?

A. At that time I cannot say exactly whether anything [390] was said. We talked over matters generally, but principally whether we could build a machine of that kind, and that matter of a guaranty, I think, came up at a later time. I won't be positive as to having that up at the first conversation.

Q. Was your conversation with Mr. Millard or your first visit to the plant for the inspection of the fuel prior to—subsequent to the letter of March 5, 1907, that has been introduced in evidence?

A. That was prior to that time. Yes. It was along a month or two. I was here in December and a piece of January. The correspondence will show that. I am not exactly positive of the dates.

Q. Did you subsequently obtain a sample?

A. I did.

Q. When was that with reference to writing the letter of March 5? A. That was afterwards.

Q. After the letter was written? A. Yes, sir.

Q. Did you have any conversation with Mr. Luckenbach prior to or about the time that letter of March 5 was written, with respect to writing such a letter?

A. I did.

Q. What was the substance of that conversation?

A. At that time we were getting pretty close to a contract having talked over *specifications it*, and other matters pertaining to this work. Mr. Luck-



(Testimony of B. S. Pederson.)

enbach emphatically wanted it understood that we should have a certain quality of fuel in making this contract, and in getting results. And I think he said, "I don't want you to come and say afterwards that we promised you bricks such as you have seen down there and have obtained, but we are installing a bricking machine, and [391] that will be the form of the brick. But it will be the quality that you saw down there. It will be such fuel as that, but in a different shape," and says to have this absolutely without any misunderstanding, and we had better write it down. I think he then wrote this letter to confirm his conversation with *me*. *What* did you do with the letter?

A. I think that letter—I don't remember whether it was sent to me or to the home office.

Q. Do you know whether or not it was submitted to the home office before the contract was entered into?

A. Oh, yes, I know that. Well, I know that from the fact that they received the letter, and it has been acknowledged as being the letter sent to them.

Q. Did you examine these samples that Mr. Millard submitted to you?

A. I did. I did for stability. I had no means of taking any chemical analysis of the brick or briquet, but for stability I gave them a thorough examination by concussion and handling, and Mr. Millard at that time made some explanation that they had different grades of briquets on hand. Some, I think, had been made three months, and some probably had

(Testimony of B. S. Pederson.)

been made six months.

Q. How did those briquets compare in stability and physical strength with the brick that you used and that was furnished to that machine during the twenty-day test?

A. There was no comparison between them for the simple reason that the samples shown us were of such a hardness that you could not break them ordinarily in your hands or by striking them together or by dropping them on the floor, whereas, I doubt if there was a brick supplied us during the test that would stand a drop of four or five feet from the ground. [392]

Q. Did you send these samples to Fort Wayne, to the company for which you were working?

A. I sent those on, not particularly to show them what it was, but to confirm my stand actually taken in going into this matter.

Q. Do you know what percentage of moisture they contained?

A. I had a copy of the report, and if my memory serves me it was about three per cent.

Q. Was that—so that from the letter that Mr. Luckenbach wrote of March 5, which contained a statement of the conditions and the contemplated conditions there, and what you had learned from what you said you did in respect to obtaining samples and going down there—had you any other knowledge of the conditions under which you were to operate?

(Testimony of B. S. Pederson.)

A. No, I don't know of any other knowledge that I had.

Q. Were your guaranties based upon the information that you had thus obtained? A. They were.

Q. In the conversation of the gas generator or water-gas generator for the use of carbon, either in the form of lamp-black or anthracite coal or coke, does the size of the machine have anything to do with its capacity?

A. It has everything to do with the capacity.

Q. Upon what is the capacity of the machine based? I mean with respect to the dimensions.

A. On the grate area. [393]

Q. (By Mr. CHAPMAN.) In operating a water-gas generator, Mr. Pederson, is it necessary to have fuel of any particular size or uniformity?

A. With certain restrictions, yes.

Q. What is the requirement in that regard?

A. The requirement would be a uniform fuel, as near as it could be had, and not of excessive size. So, the ordinary usage is a fuel about the size of lumps of coke, when you are using coke—the ordinary size coke. In coal, lumps about three or four inches in diameter, approximately.

Q. About to what depth do you carry the fuel in this generator under proper practice?

A. From eight to ten feet.

Q. What is the necessity of having the fuel of uniform size?

A. So that in the combustion of fuel the air may pass through the interstices caused by the contact of

(Testimony of B. S. Pederson.)

these lumps, the oxygen of the air affording combustion of the carbon. And the same reason holds good in passing steam through the incandescent mass after the blast, so that decomposed steam, or that part of it which is oxygen, may come in contact with the incandescent carbon and form the  $\text{CO}^2$ .

Q. In other words, if the fuel is dumped in in uniform size, it lies with openings and interstices in the mass so that the air and steam can get through?

A. Yes, that is the idea.

Q. (By the COURT.) You want bricks then of uniform size—of the fuel, whatever it is, of uniform size?

A. The fuel, whatever it is, should be of uniform size, and of such consistency as to retain that size and shape in the fire till it is consumed; it won't retain that size, but the gradual combination of the carbon with the oxygen reduces the [394] size of the lump, so that by the time it reaches the grate-bars it is very much smaller, but not entirely consumed.

Q. (By Mr. CHAPMAN.) At what point in the generator do you pass the air into the fuel to create combustion? A. Under the grate-bar.

Q. Then it must pass up through the fuel?

A. Pass up through the fuel, over to the carbureter, down through the carbureter and into the superheater, and out through the stack-valve.

Q. When you are passing the air through, what do you call that period?

A. The blasting period or blowing period.

Q. The air is passed through under pressure?

(Testimony of B. S. Pederson.)

A. Yes, sir.

Q. Must it come in contact with all of the fuel in order to create combustion and raise the fuel to the proper heat? A. It must.

Q. And also the steam?

A. The steam must come in contact with all the carbon in order to be decomposed and changed into gas.

Q. About what period, ordinarily, do you continue the blast or the blow?

A. They vary slightly under different conditions. From five to six minutes blast, with the same period of gas-making.

Q. What is the effect upon the combustion and the ability to raise the fuel to the proper heat if the bricks or fuel furnished is not of uniform size, as you say, and crumbles up before it gets into the fuel or afterwards?

A. The effect then would be that fine dust or material will fill in the spaces and make a packed mass so that the blast cannot readily find its way through, and after it packed sufficiently, the blast would hardly get through at all but would just go into the fire-box and keep backing up against [395] the fuel and the fan would continue turning.

Q. (By the COURT.) In order to work properly the blast must permeate (I don't know if that is the correct word)—it must be permitted to go through the mass of fuel at various and diversified points?

A. Yes, sir. The fine opening caused by the air spaces; and pass through the entire mass. The effect



(Testimony of B. S. Pederson.)

of choking the fire with this fine dust would be that the blast would seek outlets where it could, which would be around the wall of the generator.

Q. That would not give the result required?

A. It would give very much reduced results. It would give results corresponding to that outer surface.

Q. The substance of your testimony is that the blocks of carbon should lie properly with reference to each other? Not only that, but the amount of carbon—

A. Both of the amount of carbon; not only the shape, but the manner in which it is placed in the generator.

Q. (By Mr. CHAPMAN.) Does the crumbling of the fuel and the pulverization of it—in the way you have described—result also in any dust or fine particles being carried on into any other part of the machine to its detriment?

A. It does. The blast in blowing up through is able to carry these fine dust particles over into the machine; whereas, if the lumps were solid, they could not do so. The large lumps of fuel which has a density of coal or coke cannot be thus blown over, with the possible qualification that a certain amount of the ash that gathers on the outside of the fuel may be carried over—possibly one or two per cent. But where the whole lump is disintegrated into dust it carries the entire mass.

Q. Where does it go? [396]

A. Into the carbureter, and maybe into the superheater.

(Testimony of B. S. Pederson.)

Q. (By the COURT.) Mr. Pederson, go to that diagram and draw a line indicating what would be the bottom that supports this fuel in the generator.

A. These (illustrating) are the grate-bars.

Q. It rests right there?

A. It rests right there. It forms one body above this brick wall eight or nine feet high, and there are two bodies of fuel. The grate-bar is here. This is the ash-pit where the residuum from the carbon is shaken down and is gathered.

Q. The blast comes in where?

A. Into this pipe here and this pipe. We have two blast pipes.

Q. How does it work its way into those other places?

A. They are called bearing bars. For instance, here is a support here and support here, and the bearing-bar across this way, and the grate-bars from bearing-bar to bearing-bar.

Q. And that is forced in and is sucked in from above—that air?

A. No, sir. It comes in with a pressure of 20 to 21 inches in this case, the pressure depending largely on the quality of the fuel that you have. Sometimes, take a fuel that is considered high in hydrocarbon, you require more air to consume it than some other fuel, and we get more air by getting more pressure in a certain orifice. So we have air coming in here and into this large chamber, and the pressure forces it through the fire.

Q. (By Mr. CHAPMAN.) When you apply the

(Testimony of B. S. Pederson.)

air to the fuel in the way you have described for the purpose of heating the machine during the blow, what are the products of combustion?

A. There would be what we call a producer-gas, carbon monoxide and a certain amount of carbon dioxide. But the carbon monoxide passes over to the carbureter and is used to heat up that shell. It is ignited in the second shell, and [397] has a combustion at that point.

Q. And you really depend on that to heat the carbureter? A. Entirely.

Q. And what about heating the superheater?

A. That is called a secondary combustion. The carbureter does not require for its heating all the gas that the generator will produce, and in passing this gas to the carbureter we admit only enough air to consume a portion of that gas. Then we pass on to the superheater and admit enough air to complete the combustion of this gas, if it is required, or enough air to give us the combustion we need, and the balance of the gas passing through the stack if we do not require it all for heating up.

Q. And by that process you have the three principal parts of the apparatus heated to the proper temperature? A. Yes, sir.

Q. And then you close the apertures?

A. Then we close the air-valves and the stack valves.

Q. In this machine was there any method provided for catching or collecting any part of the fine material that might blow over with the products of com-

(Testimony of B. S. Pederson.)

bustion during the blow? A. There was.

Q. Explain that to the Court.

A. All our carbureters are provided with a chamber to receive ash that would naturally be in any fuel. For example, we figure three to five or seven per cent ash in any ordinary fuel. There is a chamber provided to receive this and prevent its going into the carbureter. The gas comes in through here and strikes this wall here. There is a wall here of heavy fire brick, and the shape of that chamber is a segment of that circle—of that entire carbureter. The dust, if there be any, strikes here, and by precipitation drops into this chamber till it is time to clean out, and then it is [398] opened and taken away.

Q. In this lamp-black fuel are there supposed to be clinkers?

A. No, there is not supposed to be clinkers, and I find by experience that there are practically no clinkers. Any clinkers we would find or portions resembling clinkers would be just particles of dirt or sand, for example, that got in there and glassified, as you might call it, or melted. It is a very small factor.

Q. In the operation of the machine is it necessary to take any means or provide any measure for cleaning the carbureter? A. Yes.

Q. What is the practice, and what is the necessity?

A. The practice is at stated periods to close down the apparatus and either by natural or forced draft burn out any accumulated carbon that may be on the brick.

Q. You use oil in the carbureter? A. Yes, sir.